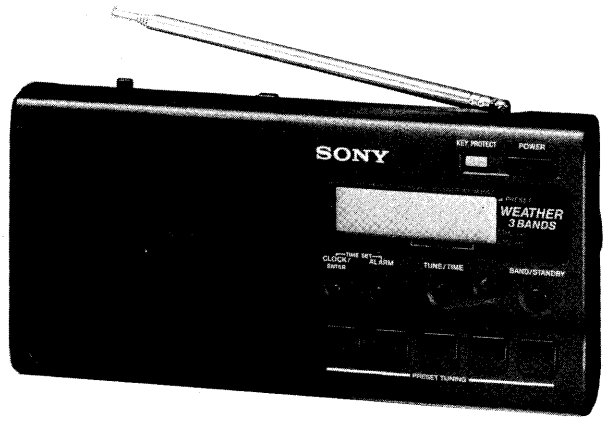
ICF-M350V

SERVICE MANUAL

US Model



SPECIFICATIONS

Frequency range	TV	2–13ch
	WEATHER	1–7ch
	FM	87.5–108 MHz (0.1 MHz step)
	AM	530–1,710 kHz (10 kHz step) 531–1,710 kHz (9 kHz step)

Speaker: Approx. 7.7 cm (3 1/8 inches) dia.
Power output: 280 mW (at 10% harmonic distortion)
Output: Earphone jack (minijack)
Power requirements: 4.5 V DC
Three size AA (R6) batteries
DC IN 4.5 V jack accepts:
Sony AC-E45M AC power adaptor (not supplied)
Sony DCC-E145L car battery cord (not supplied) for use with 12 V car battery
Battery life: TV/WEATHER: 12 hours
FM: 15 hours
AM: 21 hours
using Sony batteries SUM-3 (NS)
Dimensions: Approx. 195 × 95 × 32.5 mm (w/h/d) (7 3/4×3 3/4×1 5/16 inches) not incl. projecting parts and controls
Mass: Approx. 440 g (15.5 oz) incl. batteries

Design and specifications subject to change without notice.

Features

- A quartz-controlled PLL(Phase Locked Loop) synthesizer system using a microcomputer for easy pinpoint tuning.
- Up to 5 stations in each band can be preset.
- The tuned frequency is digitally displayed to make searching of the desired station easier.
- The radio can be turned on at the preset time.
- Weather band provides continuous broadcast of the latest weather information (directly from National Weather Service offices).

Note on AM channel step

The AM channel step differs depending on areas. The AM channel step of this unit is factory-set to 10 kHz to match the frequency allocation system of the country as listed. You can change the channel step. (See "Changing AM Channel Step".)

Area	AM channel step
North American countries	10 kHz
Other countries	9 kHz

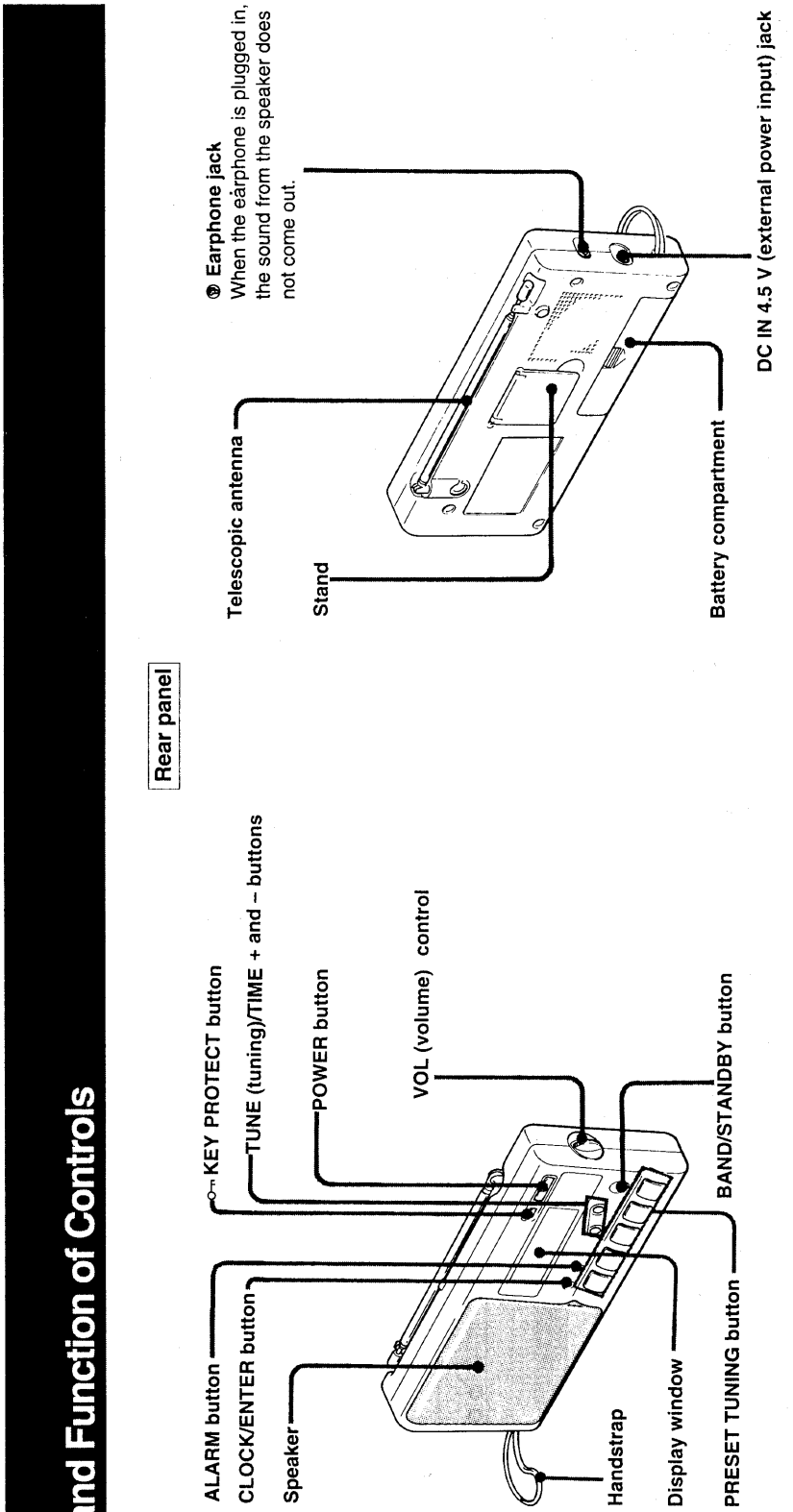
TV/WEATHER/FM/AM 4 BAND PLL SYNTHESIZED RECEIVER

SONY®

This section is extracted from instruction manual.

SECTION 1
GENERAL

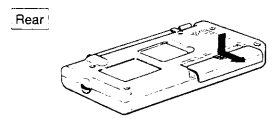
Location and Function of Controls

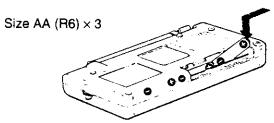


Installing Batteries

When to replace the batteries

When the batteries become weak, sound becomes weak or distorted. When the batteries are run down completely, the power is turned off and "ooo" in the display window flashes. When the power turned on with the indication flashing, the power will be turned off right away. When "ooo" starts flashing, replace all the batteries with new ones. After the batteries are replaced, turn the power on again to stop the flashing of the indication.





When replacing the batteries

Replace the batteries within about one minute after turning off the radio. If you do not replace them within one minute, the preset stations may be erased, the clock setting may be cleared and "AM 12:00" flashes in the display window.
For battery life, see "Specifications".

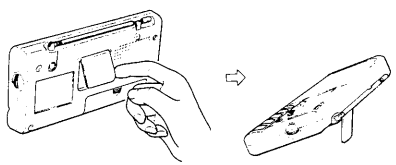
To avoid damage from battery leakage and corrosion

Remove the batteries when you do not use the unit for a long time.

When the batteries are removed for a long time

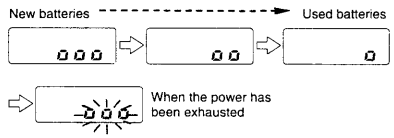
Preset stations will be erased and the clock setting will be cleared. It this case, store stations and reset the clock.

How to Use the Stand



The indication of the power remaining in the battery

When you turn the unit on, the power remaining in the battery is displayed for about one second and a half. The unit displays one of the four indications depending on the power remaining in the battery.



Other Power Sources

The internal batteries are automatically disconnected when the AC power adaptor or the car battery cord is connected to the DC IN 4.5 V jack.

House current

Connect the Sony AC-E45M AC power adaptor (not supplied) to the DC IN 4.5 V jack, and plug it into a wall outlet.

Car battery

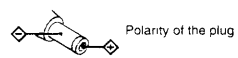
For use on 12 V car battery, connect the Sony DCC-E145L car battery cord (not supplied) to the DC IN 4.5 V jack.

Notes

- When operating the unit on the batteries, remove the AC power adaptor or car battery cord.
- The unit cannot be operated on the internal batteries when the DC power adaptor or car battery cord is connected to the DC IN 4.5 V jack.
- The batteries should be inserted for back-up even when the unit is operated on AC power adaptor or car battery cord.
- When the AC power adaptor is not used, be sure to unplug it both from the DC IN 4.5 V jack and from a wall outlet. If the AC power adaptor is connected to the DC IN 4.5 V jack without connecting to a wall outlet, the clock will be reset and the preset stations will be erased.

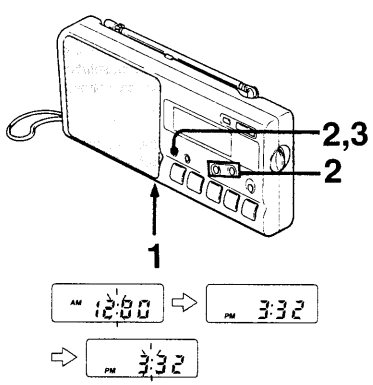
Note on the AC power adaptor

Use only the recommended car battery cord or AC power adaptor (not supplied).
Do not use any other car battery cord or AC power adaptor.

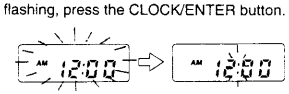


Setting the Clock

Set the clock or display time when the radio is turned off.



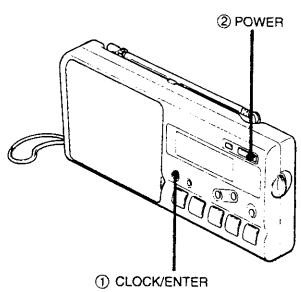
1 **When you insert the batteries for the first time, digits flash in the display window.** To stop flashing, press the CLOCK/ENTER button.



2 **While pressing the CLOCK/ENTER button, press the TUNE/TIME + or – button to set the clock to the current time.** Each time the button pressed, the digits move forward or back by one. When you keep the button pressed, the digits change rapidly.

3 **When you release the CLOCK/ENTER button, the clock starts operating, and ":" starts flashing.** If you release the CLOCK/ENTER button simultaneously with the time signal as it sounds, the clock starts from zero second.

Changing the AM Channel Step



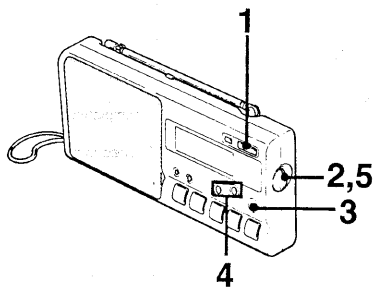
1 **Make sure that the radio is turned off.**

2 **While pressing the CLOCK/ENTER button ①, keep pressing the POWER button ② for more than 5 seconds.** The AM channel step has been changed. If you proceed step 2 again, the channel step changes again.

Note

If you proceed with the step above, the clock and the preset memory are erased, and "AM 12:00" flashes.

Listening to the Radio (Manual Tuning)



1 **Press the POWER button to turn the radio on.**
The band, frequency and the preset number of the station before the radio was turned off appear in the display window.

2 **Turn the VOL control a little to get sound.**

3 **Press the BAND/STANDBY button to select the band.**
Each press of the button changes the band in the following order.

→ AM → FM → TV → WEATHER →

(The display window shows the last frequency chosen in each band.)

4 **Tune in a desired station by pressing the TUNE/TIME + or – buttons.**

5 **Adjust volume.**

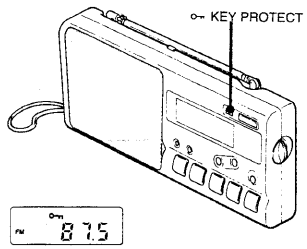
To turn the radio off
Press the POWER button.

To Improve Reception

FM/TV/WEATHER: Extend the telescopic antenna and adjust the length, direction and angle for the best reception.

AM: Since the ferrite bar antenna is built in, the reception is affected by the position of the radio. Rotate the unit horizontally for optimum reception.

To Prevent Accidental Change of the Receiving Station



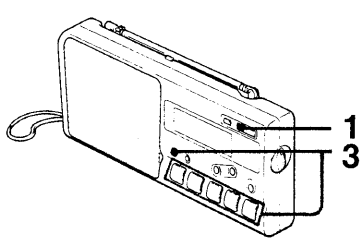
Press the KEY PROTECT button. The mark will be displayed, indicating that the front panel buttons cannot be activated. This prevents accidental operation when the unit is being carried. You can adjust volume even if the mark is displayed. To release this function, press the KEY PROTECT button again.
When you press the KEY PROTECT button in the standby mode, the standby mode will be canceled temporarily until the KEY PROTECT function is released.

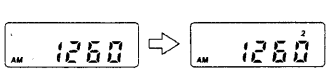
Preset Tuning

You can preset up to five stations in each band (a total of 20 stations).

Presetting the Station

Example: To set AM 1260 kHz in preset button 2.





1 **Press the POWER button to turn the radio on.**

2 **Tune in the AM 1260 kHz (see "Listening to the Radio (Manual Tuning)").**

3 **While keeping the CLOCK/ENTER button pressed, press the desired PRESET TUNING button.**
The preset number appears in the display window.

Repeat these steps for each station to be preset.

To change the preset station
Preset a new station in the number of which you want to change the station. The previous station is canceled.

Listening to a Preset Station

1 **Press the POWER button to turn the radio on.**

2 **Select the band with the BAND/STANDBY button.**

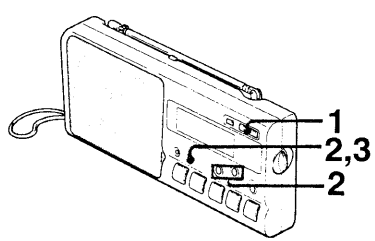
3 **Press the desired PRESET TUNING button.**

4 **Adjust the volume.**

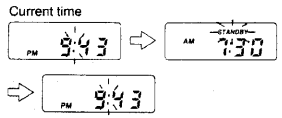
Using the Alarm Function

You can turn the radio on at the preset time. It will be tuned in the station before the radio was turned off. The radio will automatically turn off after about 60 minutes, unless you turn it off.

Setting the Alarm Time



Current time



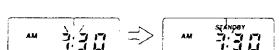
1 **Make sure the radio is turned off.**

2 **While keeping the ALARM button pressed, set the time by pressing the TUNE/TIME + or – button.**
While the ALARM button is pressed, the "STANDBY" indication is flashing in the display window.

3 **Release the ALARM button.**
The alarm time is set. The indication becomes the current time.

Setting the Alarm

1 **Make sure the radio is turned off.**
2 **Press the BAND/STANDBY button.**
The "STANDBY" indication appears in the display window.

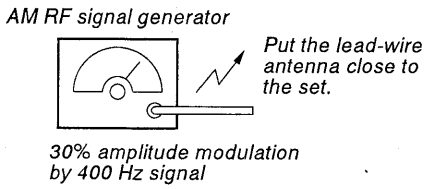


To cancel the alarm function
Press the BAND/STANDBY button. The "STANDBY" indication disappears.

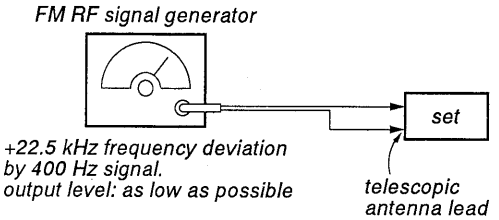
Note
When "AM 12:00" is flashing, you cannot set the alarm time nor set the alarm.

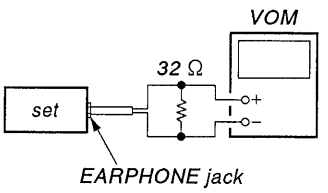
SECTION 2
ELECTRICAL ADJUSTMENTS

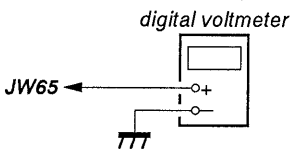
[AM Section]
Setting:
BAND switch: AM



[FM/TV Section]
Setting:
BAND switch: FM or TV


FM RF signal generator
set
+22.5 kHz frequency deviation by 400 Hz signal.
output level: as low as possible
telescopic antenna lead





- Repeat the procedures in each adjustment several times, and the frequency coverage and tracking adjustments should be finally done by the trimmer capacitors.

AM IF ADJUSTMENT
Adjust for a maximum reading on VOM.
T1
455 kHz

MW FREQUENCY COVERAGE ADJUSTMENT		
Adjustment Part	Frequency Display	Reading on Digital Voltmeter
L4	1,710 kHz	8 ± 0.1 V

Note: Not use the AM RF signal generator in this adjustment.

AM TRACKING ADJUSTMENT	
Adjust for a maximum reading on VOM.	
L1	CT3
590 kHz	1,490 kHz

FM FREQUENCY COVERAGE ADJUSTMENT		
Adjustment Part	Frequency Display	Reading on Digital Voltmeter
L3	108 MHz	10 ± 0.5 V

Note: Not use the FM RF signal generator in this adjustment.

FM TRACKING ADJUSTMENT	
Adjust for a maximum reading on VOM.	
CT1	L21, 22
108 MHz	2 ch

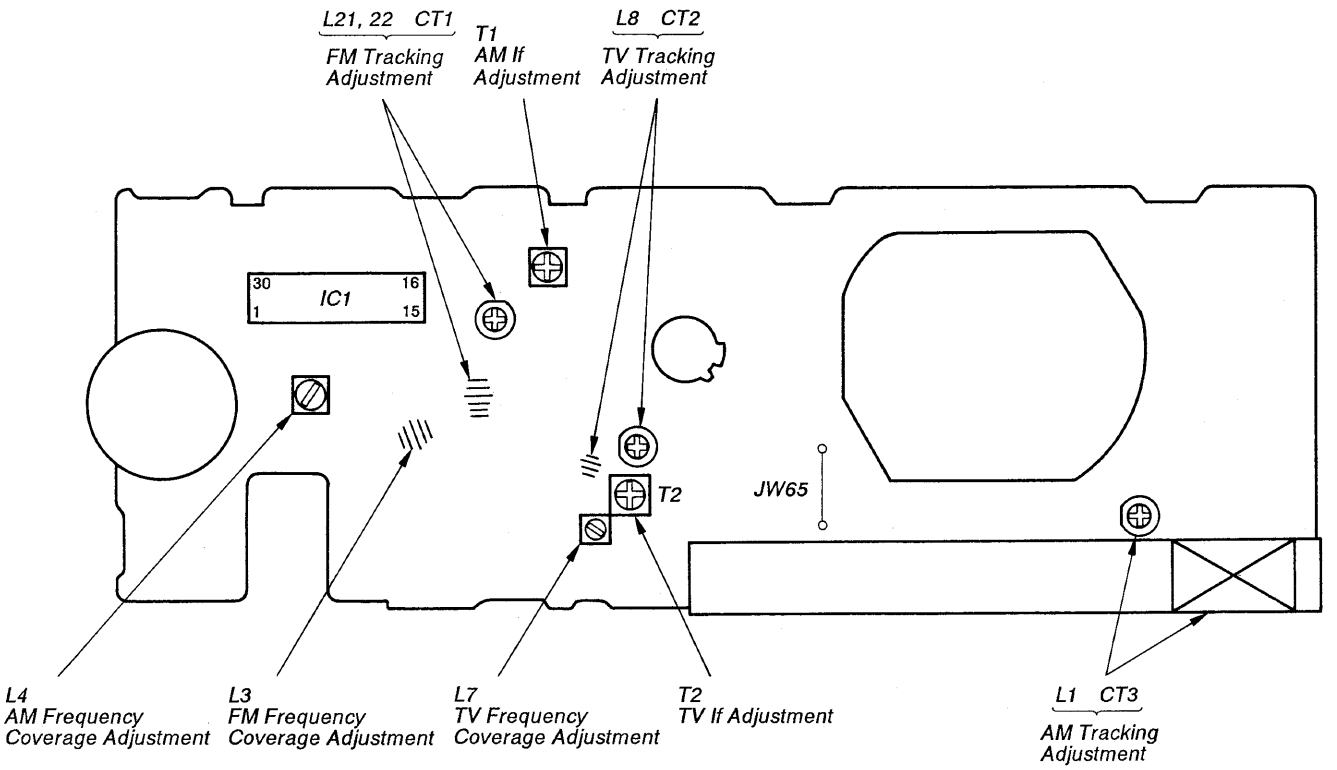
TV IF ADJUSTMENT
Adjust for a maximum reading on VOM.
T2
10.7 MHz

TV FREQUENCY COVERAGE ADJUSTMENT		
Adjustment Part	Frequency Display	Reading on Digital Voltmeter
L7	13 ch	11 ± 0.1 V

Note: Not use the FM RF signal generator in this adjustment.

TV TRACKING ADJUSTMENT	
Adjust for a maximum reading on VOM.	
L8	CT2
WETHER 4 ch	13 ch

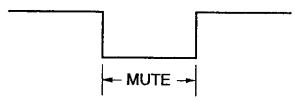
- **Adjusting Parts Location**



SECTION 3
DIAGRAMS

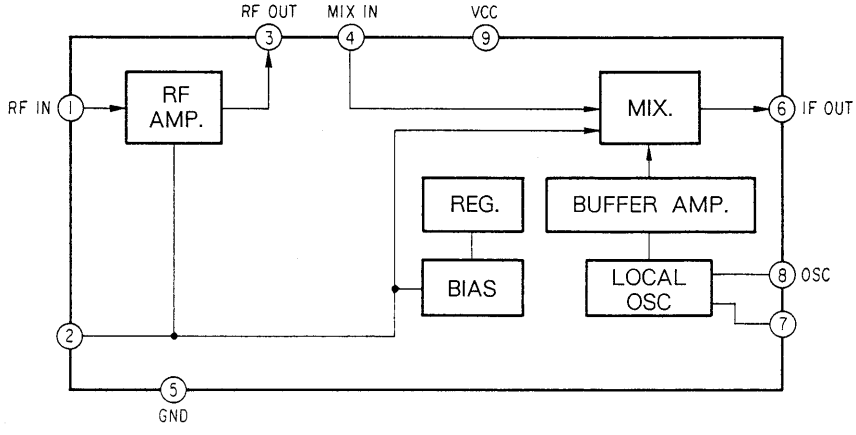
3-1. IC PIN DESCRIPTION

IC101 (μPD1724GB-598-1A7)

No.	Pin Name	Signal Name	I/O	Description
1 - 10	LCD10 - LCD1	LCD10 - LCD1	O	LCD drive (⑨, ⑩ pin : not in use)
11	NC	—	—	Not in use.
12 - 14	COM3 - COM1	COM3 - COM1	O	LCD common
15	VSS3	—	—	Pin for doubler circuit capacitor connection to develop LCD drive voltage.
16	CAP1	—		
17	CAP2	—		
18	VSS2	—		
19	VDP	$\overline{\text{MUTE}}$	O	Audio signal mute. Active : Low. Low when MUTE ON. 
20	CGP	BEEP	O	Activates buzzer.
21	NC	—	—	Not in use.
22	VDD	—	—	3 V power supply input terminal.
23	VCOH	TV LOCAL IN	I	Not in use.
24	VCOM	FM LOCAL IN	I	FM VCO input
25	VCOL	AM LOCAL IN	I	AM VCO input
26	VSS1	VSS (GND)	—	GND
27	EO1	PD OUT	O	PLL error output pin.
28	EO2	—	—	Not in use.
29	CE	CE	I	Detects power supply line status. Power supply line OFF : Low Power supply line ON : High
30	XO	X OUT	O	Crystal oscillator connection pin.
31	XI	X IN	I	
32	VSS4	—	—	Pin for regulator circuit capacitor connection to attain stable drive voltage of the oscillator.
33	PA3	—	I	Not in use.
34	PA2	—	O	Not in use.
35	PA1	—	O	Not in use.
36	PA0	AM / $\overline{\text{FM}}$ • $\overline{\text{TV}}$	I / O	BATTERY CHECK input and BAND selection output. FM : Low MW / SW : High
37	PB3	—	—	Not in use.
38	PB2	RADIO POWER ON / $\overline{\text{OFF}}$	O	RADIO POWER ON / $\overline{\text{OFF}}$ output.
39	PB1	SW • TV / $\overline{\text{MW}}$ • $\overline{\text{FM}}$	O	BAND selecion signal output.
40	PB0	INIT	O	Connected the resistor 5.6 kΩ .
41 - 44	PC3 - PC0	KEY SCAN 2 - 1	O	Conducts Key Scan (㊶ pin: Not in use)
45 - 48	K3 - K0	KEY RET 2 - 0	I	Key Return input (㊺ pin : Not in use)
49, 50	NC	—	—	GND
51 - 56	LCD16 - LCD11	LCD16 - LCD11	O	LCD drive

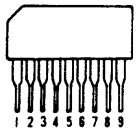
• IC Block Diagrams

ICI TA7358P

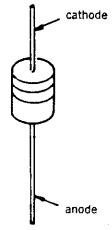


• Semiconductor Lead Layouts

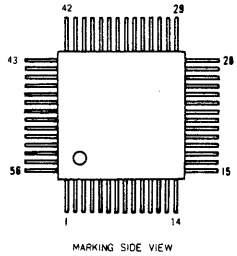
TA7358P



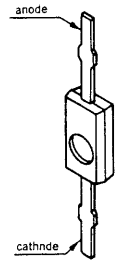
MTZJ-T-77-15A
MTZJ-T-77-2.7A
1SS119
1SS133T-77



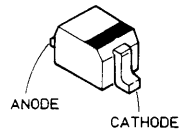
μPD1724GB-618-1A7



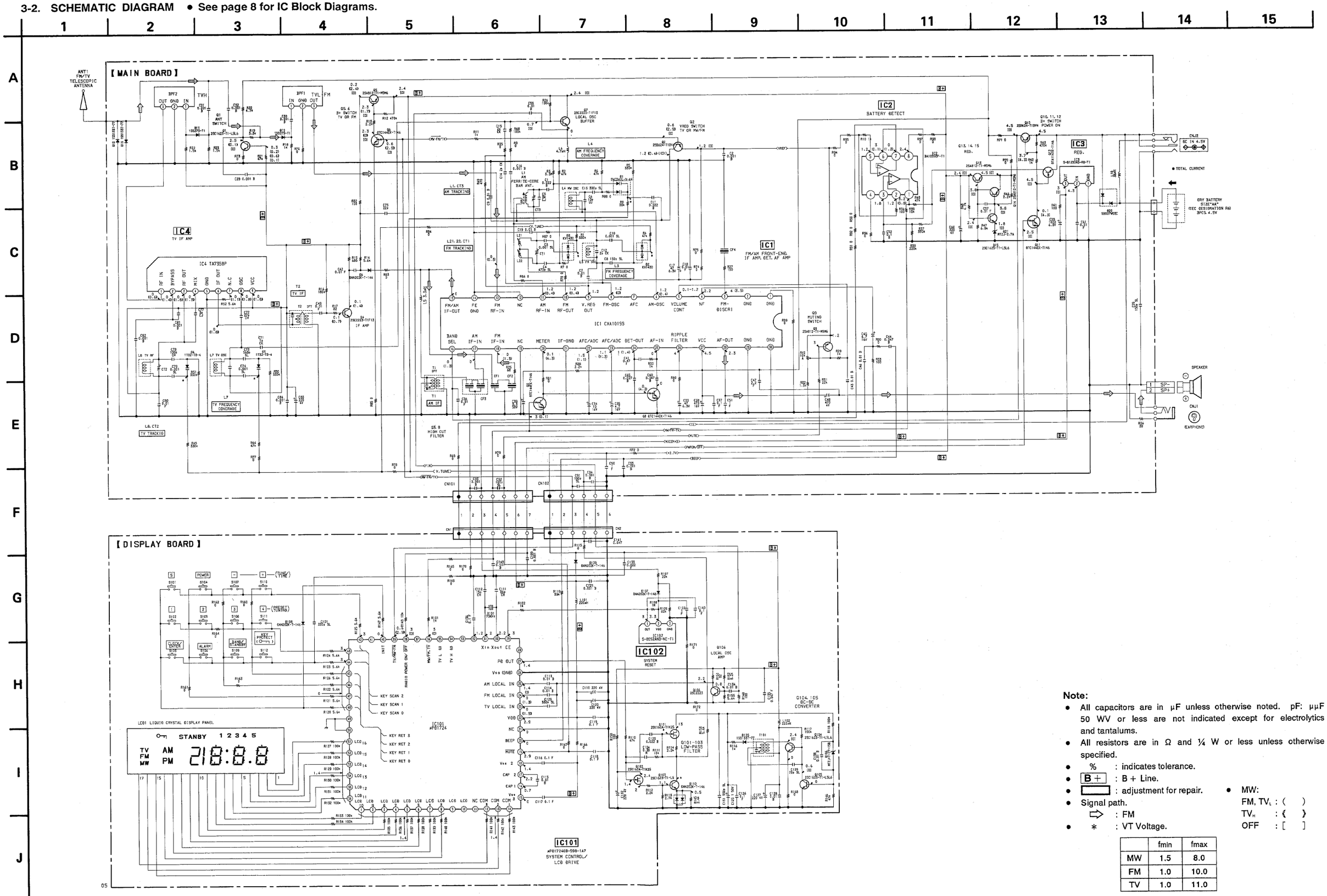
1SS279



1T32



3-2. SCHEMATIC DIAGRAM • See page 8 for IC Block Diagrams.



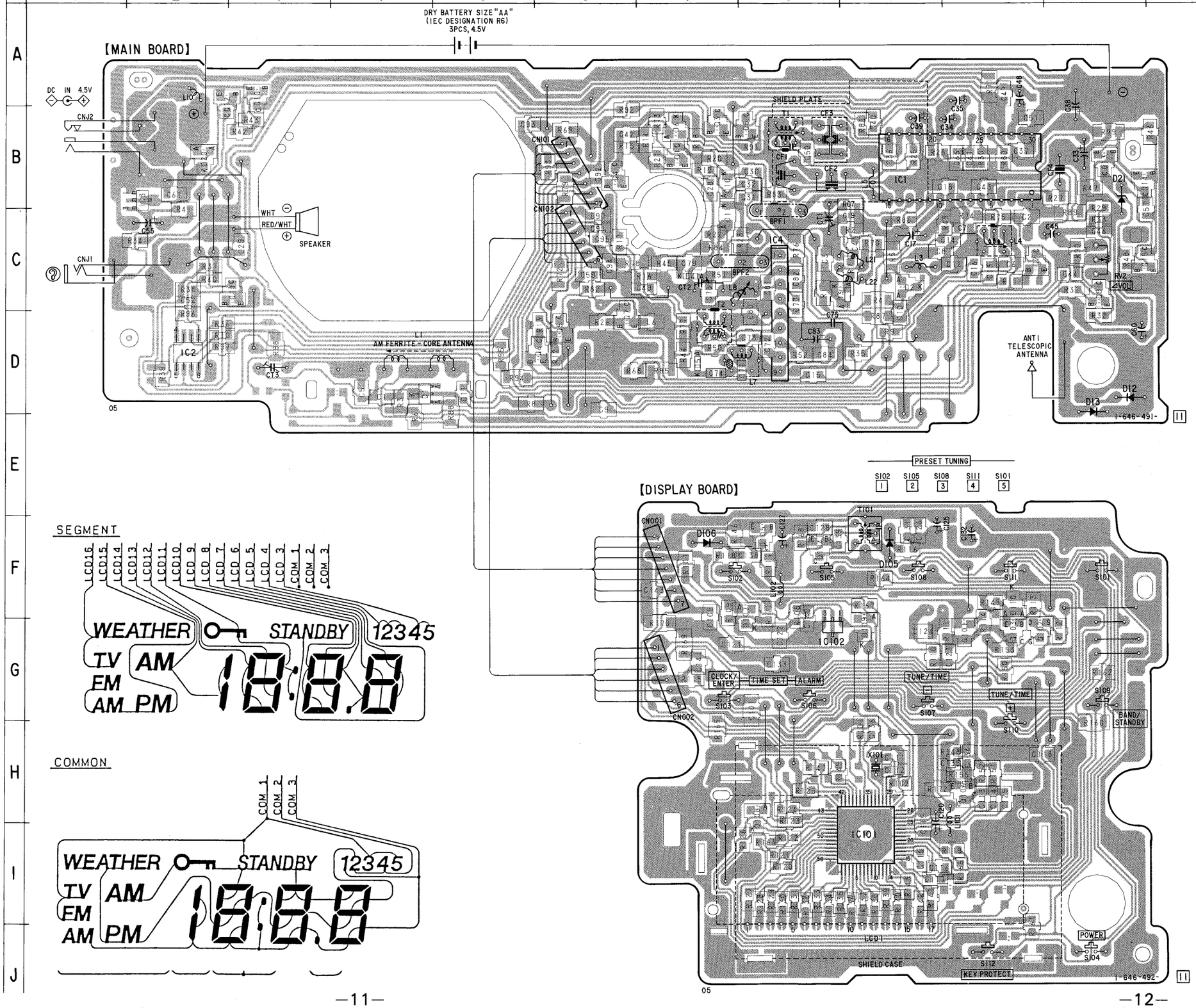
Note:

- All capacitors are in μF unless otherwise noted. pF: μμF 50 WV or less are not indicated except for electrolytics and tantalums.
- All resistors are in Ω and ¼ W or less unless otherwise specified.
- % : indicates tolerance.
- B+ : B + Line.
- ▭ : adjustment for repair.
- Signal path.
  ⇨ : FM
- * : VT Voltage.
- MW: FM, TV_L : ( )
  TV_H : ⟨ ⟩
  OFF : [ ]

	fmin	fmax
MW	1.5	8.0
FM	1.0	10.0
TV	1.0	11.0

3-3. PRINTED WIRING BOARDS • See page 8 for Semiconductor Lead Layouts.

【MAIN BOARD】



SEGMENT

LCD16 LCD15 LCD14 LCD13 LCD12 LCD11 LCD10 LCD 9 LCD 8 LCD 7 LCD 6 LCD 5 LCD 4 LCD 3 COM 1 COM 2 COM 3
WEATHER
STANDBY
12345
TV
AM
FM
AM PM
18:88

COMMON

【DISPLAY BOARD】

Note:

- ○——— : parts extracted from the component side.
- ⬚ : indicates side identified with part number.

• Semiconductor Location

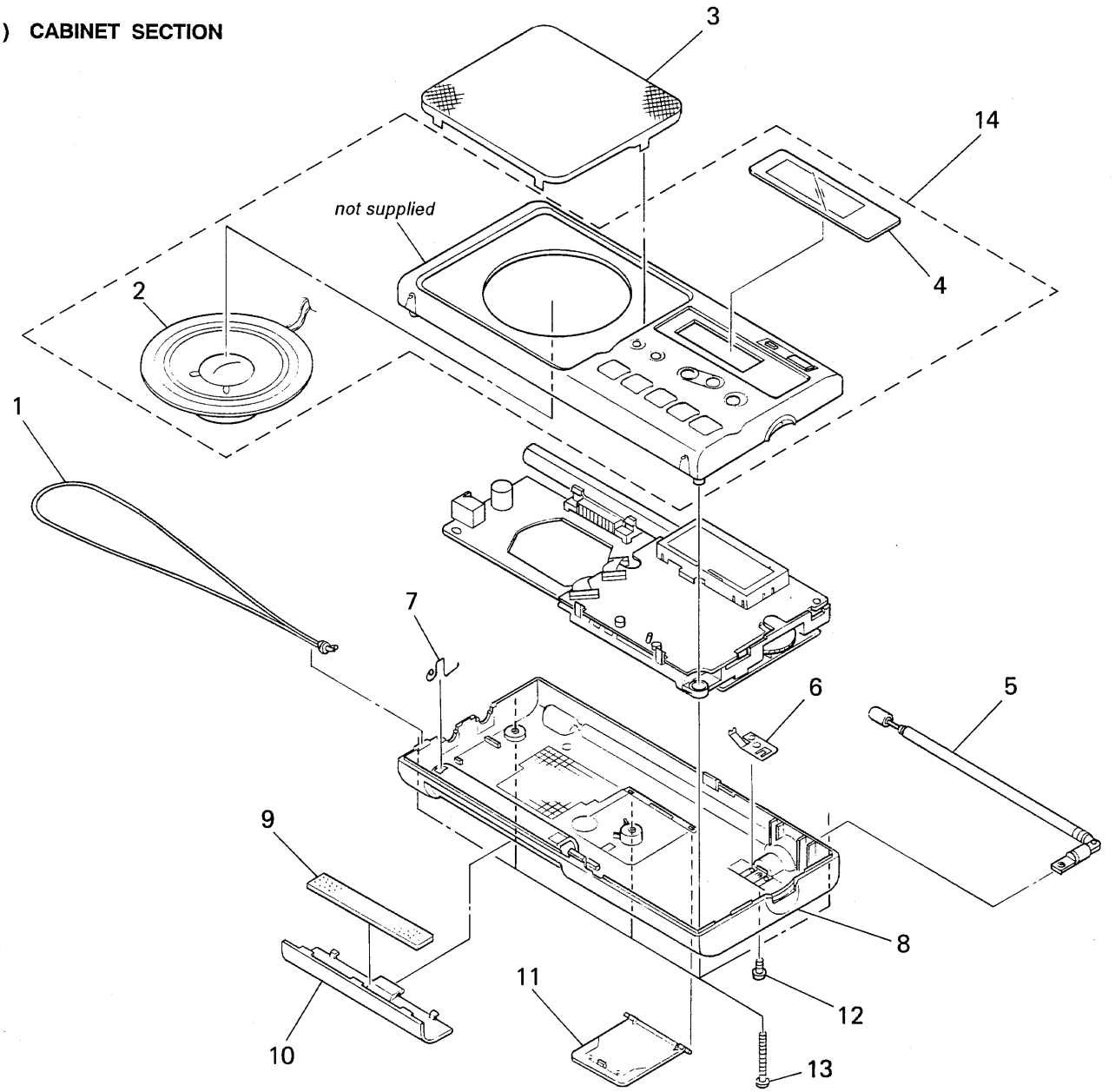
Ref. No.	Location
D1	D-4
D2	C-9
D3	C-8
D4	C-7
D5	D-7
D6	B-7
D10	B-7
D11	C-7
D12	D-11
D13	D-11
D20	B-2
D21	B-11
D105	F-9
D106	F-7
D107	G-8
D108	H-8
D109	G-9
D110	F-10
IC1	B-9
IC2	D-2
IC3	B-2
IC4	C-8
IC101	I-9
IC102	G-8
Q1	B-7
Q2	C-10
Q3	B-7
Q4	B-6
Q5	D-6
Q6	D-5
Q7	D-6
Q8	B-8
Q9	C-11
Q10	A-3
Q11	C-2
Q12	A-2
Q13	B-11
Q14	B-11
Q15	C-11
Q101	G-10
Q102	G-10
Q103	G-10
Q104	F-8
Q105	F-8
Q106	H-10

SECTION 4
EXPLODED VIEW

NOTE:

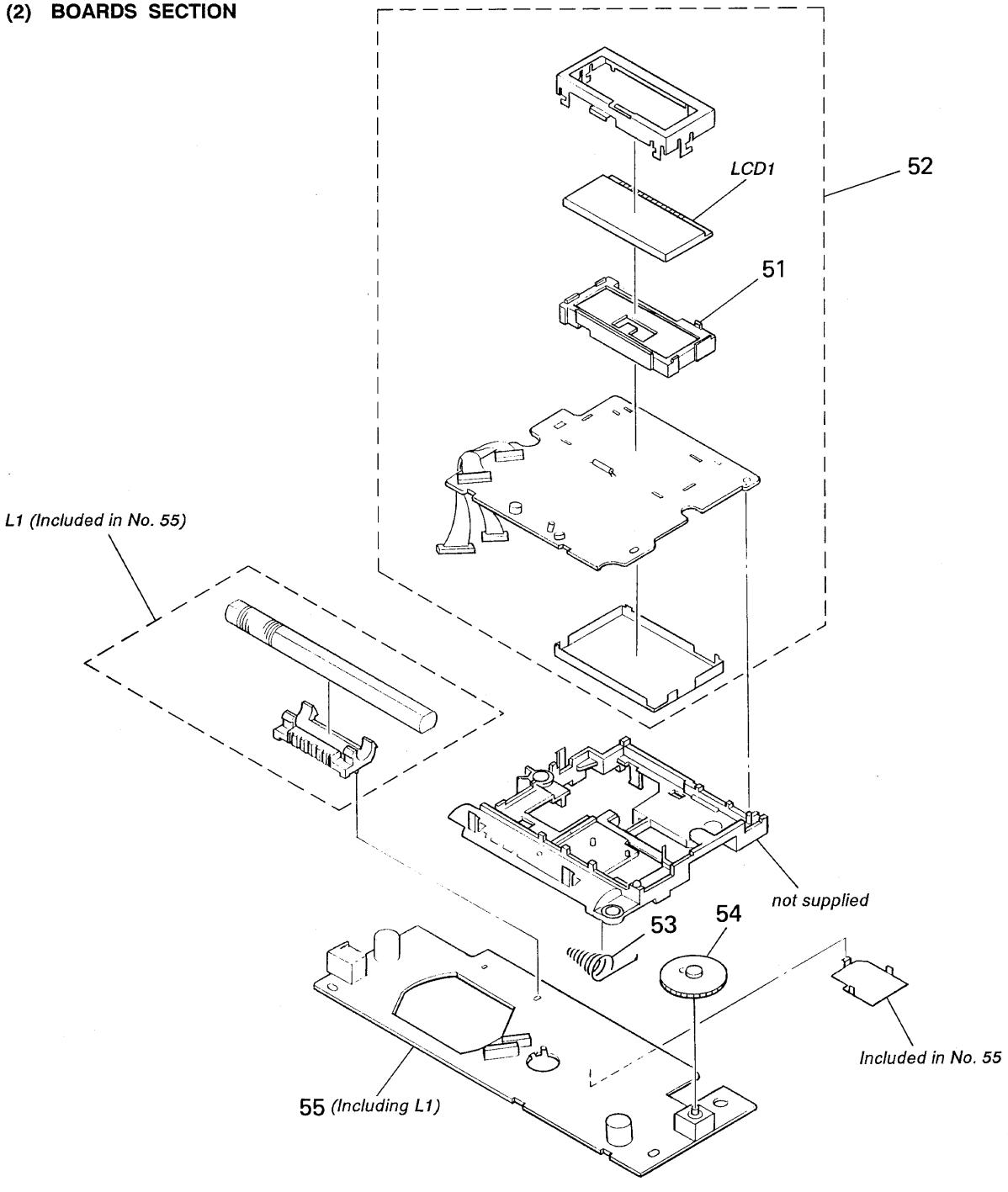
- -XX and -X mean standardized parts, so they may have some difference from the original one.
- Color Indication of Appearance Parts
  Example:
  KNOB, BALANCE (WHITE) . . . (RED)
  ↑ ↑
  Parts Color Cabinet's Color
- Items marked "*" are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.
- The mechanical parts with no reference number in the exploded views are not supplied.
- Hardware (# mark) list is given in the last of this parts list.

(1) CABINET SECTION



Ref. No.	Part No.	Description	Remark
1	3-385-660-01	STRAP, HAND	
2	1-544-756-11	SPEAKER (7CM)	
3	3-380-340-01	NET, SPEAKER	
4	3-385-234-01	WINDOW	
5	1-501-362-11	ANTENNA, TELESCOPIC	
6	3-380-339-01	PLATE (ANT), CONTACT	
7	3-380-341-01	SPRING (+), BATTERY COIL	
8	3-380-328-01	CABINET (REAR)	
9	4-860-518-00	CUSHION	
10	3-899-907-21	LID, BATTERY CASE	
11	3-380-335-01	STAND	
12	3-370-475-01	SCREW (NYLOCK +B 3X6)	
13	7-685-650-79	SCREW +P 3X16 TYPE2 NON-SLIT	
14	X-3365-466-1	CABINET FRONT ASSY	

(2) BOARDS SECTION



Ref. No.	Part No.	Description	Remark
51	3-380-336-01	HOLDER (LCD)	
* 52	A-3679-479-A	DISPLAY BOARD, COMPLETE	
53	3-380-343-01	SPRING (-), BATTERY COIL	
54	3-380-333-01	KNOB	

Ref. No.	Part No.	Description	Remark
* 55	A-3679-478-A	MAIN BOARD, COMPLETE	
L1	1-501-583-11	ANTENNA, FERR/TE-ROD(MW)	
LCD1	1-810-011-11	DISPLAY PANEL, LIQUID CRYSTAL	

SECTION 5
ELECTRICAL PARTS LIST

DISPLAY

NOTE:
- Due to standardization, replacements in the parts list may be different from the parts specified in the diagrams or the components used on the set.
- -XX and -X mean standardized parts, so they may have some difference from the original one.
- RESISTORS
  All resistors are in ohms.
  METAL:Metal-film resistor.
  METAL OXIDE: Metal oxide-film resistor.
  F:nonflammable
- Items marked "*" are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.
- SEMICONDUCTORS
  In each case, u:μ, for example:
  uA ..: μA.. uPA..: μPA..
  uPB..: μPB.. uPC..: μPC.. uPD..: μPD..
- CAPACITORS
  uF: μF
- COILS
  uH: μH

When indicating parts by reference number, please include the board.

Ref. No.	Part No.	Description			Remark
*	A-3679-479-A	DISPLAY BOARD, COMPLETE			
		**********			
	3-831-441-11	CUSHION (B)			
		< CAPACITOR >			
C101	1-163-193-00	CERAMIC CHIP	330PF	5%	50V
C109	1-163-009-11	CERAMIC CHIP	0.001uF	10%	50V
C110	1-124-576-11	ELECT	220uF	20%	4V
C111	1-163-106-00	CERAMIC CHIP	36PF	5%	50V
C112	1-163-097-00	CERAMIC CHIP	15PF	5%	50V
C113	1-164-232-11	CERAMIC CHIP	0.01uF		50V
C114	1-164-232-11	CERAMIC CHIP	0.01uF		50V
C115	1-164-232-11	CERAMIC CHIP	0.01uF		50V
C116	1-163-038-00	CERAMIC CHIP	0.1uF		25V
C117	1-163-038-00	CERAMIC CHIP	0.1uF		25V
C118	1-163-038-00	CERAMIC CHIP	0.1uF		25V
C119	1-163-077-00	CERAMIC CHIP	0.1uF	10%	25V
C120	1-124-576-11	ELECT	220uF	20%	4V
C121	1-163-009-11	CERAMIC CHIP	0.001uF	10%	50V
C122	1-164-346-11	CERAMIC CHIP	1uF		16V
C123	1-163-037-11	CERAMIC CHIP	0.022uF	10%	25V
C124	1-164-299-11	CERAMIC CHIP	0.22uF	10%	16V
C125	1-126-160-11	ELECT	1uF	20%	50V
C126	1-163-038-00	CERAMIC CHIP	0.1uF		25V
C127	1-124-434-00	ELECT	220uF	20%	4V
C128	1-164-232-11	CERAMIC CHIP	0.01uF		50V
C129	1-163-129-00	CERAMIC CHIP	330PF	5%	50V
C131	1-163-129-00	CERAMIC CHIP	330PF	5%	50V
C132	1-124-434-00	ELECT	220uF	20%	4V
C133	1-163-033-00	CERAMIC CHIP	0.022uF		50V
C134	1-164-232-11	CERAMIC CHIP	0.01uF		50V
C135	1-163-029-11	CERAMIC CHIP	0.0047uF		50V
C136	1-163-038-00	CERAMIC CHIP	0.1uF		25V
C138	1-164-232-11	CERAMIC CHIP	0.01uF		50V
C139	1-163-100-00	CERAMIC CHIP	20PF	5%	50V
C140	1-163-038-00	CERAMIC CHIP	0.1uF		25V
C141	1-163-809-11	CERAMIC CHIP	0.047uF	10%	25V
C143	1-163-009-11	CERAMIC CHIP	0.001uF	10%	50V
		< DIODE >			
D105	8-719-911-19	DIODE	1SS119		
D106	8-719-110-41	DIODE	RD15ES-B2		
D107	8-719-400-18	DIODE	MA152WK		
D108	8-719-400-18	DIODE	MA152WK		
D109	8-719-400-18	DIODE	MA152WK		
D110	8-719-400-18	DIODE	MA152WK		
		< IC >			
IC101	8-759-166-45	IC	UPD1724GB-618-1A7		
IC102	8-759-945-21	IC	S-8052ANB-NE-S		
		< COIL >			
L101	1-410-979-11	INDUCTOR	220uH		
L102	1-410-979-11	INDUCTOR	220uH		
		< LIQUID CRYSTAL DISPLAY >			
LCD1	1-810-011-11	DISPLAY PANEL, LIQUID CRYSTAL			
		< TRANSISTOR >			
Q101	8-729-117-83	TRANSISTOR	2SK160A-K25		
Q102	8-729-117-83	TRANSISTOR	2SK160A-K25		
Q103	8-729-120-28	TRANSISTOR	2SC1623-L5L6		
Q104	8-729-120-28	TRANSISTOR	2SC1623-L5L6		
Q105	8-729-120-28	TRANSISTOR	2SC1623-L5L6		
Q106	8-729-102-07	TRANSISTOR	2SC2223-F13		
		< RESISTOR >			
R101	1-216-049-00	METAL CHIP	1K	5%	1/10W
R102	1-216-049-00	METAL CHIP	1K	5%	1/10W

DISPLAY | MAIN

Ref. No.	Part No.	Description			Remark
R107	1-216-081-00	METAL CHIP	22K	5%	1/10W
R108	1-216-121-00	METAL CHIP	1M	5%	1/10W
R109	1-216-095-00	METAL CHIP	82K	5%	1/10W
R110	1-216-077-00	METAL CHIP	15K	5%	1/10W
R111	1-216-073-00	METAL CHIP	10K	5%	1/10W
R112	1-216-055-00	METAL CHIP	1.8K	5%	1/10W
R113	1-216-059-00	METAL CHIP	2.7K	5%	1/10W
R114	1-216-057-00	METAL CHIP	2.2K	5%	1/10W
R115	1-216-295-00	METAL CHIP	0	5%	1/10W
R116	1-216-049-00	METAL CHIP	1K	5%	1/10W
R117	1-216-097-00	METAL CHIP	100K	5%	1/10W
R118	1-216-097-00	METAL CHIP	100K	5%	1/10W
R119	1-216-689-11	METAL CHIP	39K	0.5%	1/10W
R120	1-216-067-00	METAL CHIP	5.6K	5%	1/10W
R121	1-216-067-00	METAL CHIP	5.6K	5%	1/10W
R122	1-216-067-00	METAL CHIP	5.6K	5%	1/10W
R123	1-216-067-00	METAL CHIP	5.6K	5%	1/10W
R124	1-216-067-00	METAL CHIP	5.6K	5%	1/10W
R125	1-216-067-00	METAL CHIP	5.6K	5%	1/10W
R126	1-216-067-00	METAL CHIP	5.6K	5%	1/10W
R127	1-216-097-00	METAL CHIP	100K	5%	1/10W
R128	1-216-097-00	METAL CHIP	100K	5%	1/10W
R129	1-216-097-00	METAL CHIP	100K	5%	1/10W
R130	1-216-097-00	METAL CHIP	100K	5%	1/10W
R131	1-216-097-00	METAL CHIP	100K	5%	1/10W
R132	1-216-097-00	METAL CHIP	100K	5%	1/10W
R133	1-216-097-00	METAL CHIP	100K	5%	1/10W
R134	1-216-097-00	METAL CHIP	100K	5%	1/10W
R135	1-216-097-00	METAL CHIP	100K	5%	1/10W
R136	1-216-097-00	METAL CHIP	100K	5%	1/10W
R137	1-216-097-00	METAL CHIP	100K	5%	1/10W
R138	1-216-097-00	METAL CHIP	100K	5%	1/10W
R139	1-216-097-00	METAL CHIP	100K	5%	1/10W
R140	1-216-097-00	METAL CHIP	100K	5%	1/10W
R141	1-216-097-00	METAL CHIP	100K	5%	1/10W
R142	1-216-097-00	METAL CHIP	100K	5%	1/10W
R143	1-216-097-00	METAL CHIP	100K	5%	1/10W
R145	1-216-058-00	METAL GLAZE	2.4K	5%	1/10W
R146	1-216-089-00	METAL CHIP	47K	5%	1/10W
R147	1-216-067-00	METAL CHIP	5.6K	5%	1/10W
R148	1-216-025-00	METAL CHIP	100	5%	1/10W
R149	1-216-073-00	METAL CHIP	10K	5%	1/10W
R150	1-216-025-00	METAL CHIP	100	5%	1/10W
R151	1-216-023-00	METAL CHIP	82	5%	1/10W
R152	1-216-071-00	METAL CHIP	8.2K	5%	1/10W
R153	1-216-067-00	METAL CHIP	5.6K	5%	1/10W
R155	1-216-067-00	METAL CHIP	5.6K	5%	1/10W
R160	1-216-296-00	METAL CHIP	0	5%	1/8W

Ref. No.	Part No.	Description			Remark
R161	1-216-295-00	METAL CHIP	0	5%	1/10W
R162	1-216-295-00	METAL CHIP	0	5%	1/10W
R163	1-216-295-00	METAL CHIP	0	5%	1/10W
R164	1-216-295-00	METAL CHIP	0	5%	1/10W
R165	1-216-296-00	METAL CHIP	0	5%	1/8W
R166	1-216-295-00	METAL CHIP	0	5%	1/10W
R167	1-216-295-00	METAL CHIP	0	5%	1/10W
R168	1-216-295-00	METAL CHIP	0	5%	1/10W
R169	1-216-296-00	METAL CHIP	0	5%	1/8W
R170	1-216-296-00	METAL CHIP	0	5%	1/8W
R171	1-216-295-00	METAL CHIP	0	5%	1/10W
R172	1-216-295-00	METAL CHIP	0	5%	1/10W

< SWITCH >

S101	1-571-760-11	SWITCH, KEY BOARD (PRESET TUNING:5)
S102	1-571-760-11	SWITCH, KEY BOARD (PRESET TUNING:1)
S103	1-571-760-11	SWITCH, KEY BOARD (TIME SET:CLOCK ENTER)
S104	1-571-760-11	SWITCH, KEY BOARD (POWER)
S105	1-571-760-11	SWITCH, KEY BOARD (PRESET TUNING:2)
S106	1-571-760-11	SWITCH, KEY BOARD (TIME SET:ARARM)
S107	1-571-760-11	SWITCH, KEY BOARD (TUNE/TIME:-)
S108	1-571-760-11	SWITCH, KEY BOARD (PRESET TUNING:3)
S109	1-571-760-11	SWITCH, KEY BOARD (BAND STANDBY)
S110	1-571-760-11	SWITCH, KEY BOARD (TUNE/TIME:+)
S111	1-571-760-11	SWITCH, KEY BOARD (PRESET TUNING:4)
S112	1-572-596-21	SWITCH, KEY BOARD (KEW PROTECT)

< TRANSFORMER >

T101	1-449-138-61	TRANSFORMER, DC-DC CONVERTER

< VIBRATOR >

X101	1-567-769-11	VIBRATOR, CRYSTAL 75KHz

****

*	A-3679-478-A	MAIN BOARD, COMPLETE

****

< BAND PASS FILTER >

BPF1	1-235-826-11	FILTER, BAND PASS
BPF2	1-235-763-11	FILTER, BAND PASS

< CAPACITOR >

C1	1-163-037-11	CERAMIC CHIP	0.022uF	10%	25V
C2	1-163-009-11	CERAMIC CHIP	0.001uF	10%	50V
C3	1-163-141-00	CERAMIC CHIP	0.001uF	5%	50V
C4	1-163-133-00	CERAMIC CHIP	470PF	5%	50V
C5	1-163-220-11	CERAMIC CHIP	3PF	0.25PF	50V

Ref. No.	Part No.	Description			Remark
C6	1-163-093-00	CERAMIC CHIP	10PF	5%	50V
C7	1-164-232-11	CERAMIC CHIP	0.01uF		50V
C8	1-163-121-00	CERAMIC CHIP	150PF	5%	50V
C9	1-164-232-11	CERAMIC CHIP	0.01uF		50V
C10	1-163-141-00	CERAMIC CHIP	0.001uF	5%	50V
C11	1-163-037-11	CERAMIC CHIP	0.022uF	10%	25V
C12	1-163-085-00	CERAMIC CHIP	2PF		50V
C13	1-163-131-00	CERAMIC CHIP	390PF	5%	50V
C14	1-163-085-00	CERAMIC CHIP	2PF		50V
C15	1-163-085-00	CERAMIC CHIP	2PF		50V
C16	1-163-009-11	CERAMIC CHIP	0.001uF	10%	50V
C17	1-124-432-11	ELECT	47uF	20%	6.3V
C18	1-163-031-11	CERAMIC CHIP	0.01uF		50V
C19	1-163-021-00	CERAMIC CHIP	0.01		50V
C28	1-163-009-11	CERAMIC CHIP	0.001uF	10%	50V
C29	1-163-121-00	CERAMIC CHIP	150PF	5%	50V
C30	1-163-009-11	CERAMIC CHIP	0.001uF	10%	50V
C31	1-163-009-11	CERAMIC CHIP	0.001uF	10%	50V
C32	1-163-009-11	CERAMIC CHIP	0.001uF	10%	50V
C33	1-126-154-11	ELECT	47uF	20%	6.3V
C34	1-126-157-11	ELECT	10uF	20%	16V
C35	1-126-163-11	ELECT	4.7uF	20%	50V
C36	1-163-031-11	CERAMIC CHIP	0.01uF		50V
C37	1-163-038-00	CERAMIC CHIP	0.1uF		25V
C38	1-126-935-11	ELECT	470uF	20%	16V
C39	1-126-162-11	ELECT	3.3uF	20%	50V
C40	1-163-809-11	CERAMIC CHIP	0.047uF	10%	25V
C41	1-164-005-11	CERAMIC CHIP	0.47uF		25V
C42	1-163-031-11	CERAMIC CHIP	0.01uF		50V
C43	1-164-232-11	CERAMIC CHIP	0.01uF		50V
C44	1-163-809-11	CERAMIC CHIP	0.047uF	10%	25V
C45	1-126-163-11	ELECT	4.7uF	20%	50V
C46	1-164-232-11	CERAMIC CHIP	0.01uF		50V
C47	1-164-505-11	CERAMIC CHIP	2.2uF		16V
C48	1-104-483-11	ELECT	470uF	20%	4V
C49	1-163-031-11	CERAMIC CHIP	0.01uF		50V
C51	1-164-346-11	CERAMIC CHIP	1uF		16V
C52	1-164-004-11	CERAMIC CHIP	0.1uF	10%	25V
C55	1-124-471-00	ELECT	1000uF	20%	6.3V
C57	1-163-031-11	CERAMIC CHIP	0.01uF		50V
C59	1-164-232-11	CERAMIC CHIP	0.01uF		50V
C60	1-124-576-11	ELECT	220uF	20%	4V
C61	1-163-031-11	CERAMIC CHIP	0.01uF		50V
C65	1-163-986-00	CERAMIC CHIP	0.027uF	10%	25V
C71	1-163-217-11	CERAMIC CHIP	1PF	0.25PF	50V
C72	1-163-237-11	CERAMIC CHIP	27PF	5%	50V
C73	1-163-135-00	CERAMIC CHIP	560PF	5%	50V
C74	1-163-141-00	CERAMIC CHIP	0.001uF	5%	50V
C75	1-164-054-11	CAP, CERAMIC	22P		

Ref. No.	Part No.	Description			Remark
C77	1-163-220-11	CERAMIC CHIP	3PF	0.25PF	50V
C78	1-163-251-11	CERAMIC CHIP	100PF	5%	50V
C79	1-163-141-00	CERAMIC CHIP	0.001uF	5%	50V
C80	1-163-031-11	CERAMIC CHIP	0.01uF		50V
C81	1-163-009-11	CERAMIC CHIP	0.001uF	10%	50V
C82	1-163-009-11	CERAMIC CHIP	0.001uF	10%	50V
C83	1-124-434-00	ELECT	220uF	20%	4V
C84	1-163-009-11	CERAMIC CHIP	0.001uF	10%	50V
C90	1-164-346-11	CERAMIC CHIP	1uF		16V
C91	1-163-117-00	CERAMIC CHIP	100PF	5%	50V
C92	1-163-117-00	CERAMIC CHIP	100PF	5%	50V
C93	1-163-009-11	CERAMIC CHIP	0.001uF	10%	50V
C94	1-163-009-11	CERAMIC CHIP	0.001uF	10%	50V
C95	1-163-009-11	CERAMIC CHIP	0.001uF	10%	50V
		< FILTER >			
CF1	1-579-265-81	FILTER, CERAMIC			
CF2	1-579-265-81	FILTER, CERAMIC			
CF3	1-567-777-11	FILTER, CERAMIC			
CF4	1-579-265-81	FILTER, CERAMIC			
		< CONNECTOR >			
* CN101	1-564-709-11	PIN, CONNECTOR (SMALL TYPE) 7P			
* CN102	1-564-708-11	PIN, CONNECTOR (SMALL TYPE) 6P			
		< JACK >			
CNJ1	1-563-836-21	JACK			
CNJ2	1-695-153-11	JACK, DC			
		< TRIMMER >			
CT1	1-141-441-91	TRIMMER, CERAMIC			
CT2	1-141-441-91	TRIMMER, CERAMIC			
CT3	1-141-441-91	TRIMMER, CERAMIC			
		< DIODE >			
D1	8-719-945-31	DIODE	SVC341-L		
D2	8-719-032-80	DIODE	KV1430-TL		
D3	8-719-032-80	DIODE	KV1430-TL		
D4	8-719-949-46	DIODE	1T32		
D5	8-719-949-46	DIODE	1T32		
D6	8-719-400-18	DIODE	MA152WK		
D10	8-719-123-79	DIODE	1SS279		
D11	8-719-123-79	DIODE	1SS279		
D12	8-719-911-19	DIODE	1SS119		
D13	8-719-911-19	DIODE	1SS119		
D20	8-719-986-76	DIODE	SB007W03C		
D21	8-719-981-94	DIODE	MTZJ-T-77-2.7A		

MAIN

Ref. No.	Part No.	Description	Remark
		< IC >	
IC1	8-752-035-29	IC CXA1019S	
IC2	8-759-982-73	IC BA10393F	
IC3	8-759-939-41	IC S-81230AG-RB	
IC4	8-759-204-01	IC TA7358P	
		< COIL >	
L1	1-501-583-11	ANTENNA, FERRITE-ROD (MW)	
L3	1-402-965-11	COIL, AIR-CORE	
L4	1-406-489-11	COIL (OSC)	
L5	1-410-322-11	INDUCTOR 3.3uH	
L6	1-412-002-31	INDUCTOR CHIP 4.7uH	
L7	1-402-966-11	COIL (OSC)	
L8	1-402-969-11	COIL, AIR-CORE	
L10	1-410-294-11	INDUCTOR, MICRO 38uH	
L21	1-402-962-11	COIL, AIR-CORE	
L22	1-402-963-11	COIL, AIR-CORE	
		< TRANSISTOR >	
Q1	8-729-120-28	TRANSISTOR 2SC1623-L5L6	
Q2	8-729-141-48	TRANSISTOR 2SB624-BV345	
Q3	8-729-901-01	TRANSISTOR DTC144EK	
Q4	8-729-102-07	TRANSISTOR 2SC2223-F13	
Q5	8-729-216-22	TRANSISTOR 2SA1162	
Q6	8-729-901-01	TRANSISTOR DTC144EK	
Q7	8-729-102-07	TRANSISTOR 2SC2223-F13	
Q8	8-729-901-01	TRANSISTOR DTC144EK	
Q9	8-729-216-22	TRANSISTOR 2SA1162	
Q10	8-729-141-48	TRANSISTOR 2SB624-BV345	
Q11	8-729-901-01	TRANSISTOR DTC144EK	
Q12	8-729-900-51	TRANSISTOR DTA114TK	
Q13	8-729-216-22	TRANSISTOR 2SA1162	
Q14	8-729-216-22	TRANSISTOR 2SA1162	
Q15	8-729-120-28	TRANSISTOR 2SC1623-L5L6	
		< RESISTOR >	
R1	1-216-109-00	METAL CHIP 330K 5% 1/10W	
R2	1-216-089-00	METAL CHIP 47K 5% 1/10W	
R3	1-216-133-00	METAL CHIP 3.3M 5% 1/10W	
R4	1-216-238-00	METAL CHIP 47K 5% 1/10W	
R5	1-216-258-00	METAL GLAZE 330K 5% 1/8W	
R6	1-216-089-00	METAL CHIP 47K 5% 1/10W	
R7	1-216-295-00	METAL CHIP 0 5% 1/10W	
R8	1-216-085-00	METAL CHIP 33K 5% 1/10W	
R9	1-216-295-00	METAL CHIP 0 5% 1/10W	
R10	1-216-049-00	METAL CHIP 1K 5% 1/10W	
R11	1-216-049-00	METAL CHIP 1K 5% 1/10W	
R12	1-216-113-00	METAL CHIP 470K 5% 1/10W	
R13	1-216-057-00	METAL CHIP 2.2K 5% 1/10W	
R14	1-216-067-00	METAL CHIP 5.6K 5% 1/10W	
R15	1-216-045-00	METAL CHIP 680 5% 1/10W	
R16	1-216-103-00	METAL CHIP 180K 5% 1/10W	
R17	1-216-023-00	METAL CHIP 82 5% 1/10W	
R18	1-216-049-00	METAL CHIP 1K 5% 1/8W	
R19	1-216-061-00	METAL CHIP 3.3K 5% 1/10W	
R20	1-216-065-00	METAL CHIP 4.7K 5% 1/10W	
R21	1-216-089-00	METAL CHIP 47K 5% 1/10W	
R22	1-216-053-00	METAL CHIP 1.5K 5% 1/10W	
R23	1-216-053-00	METAL CHIP 1.5K 5% 1/10W	
R25	1-216-021-00	METAL CHIP 68 5% 1/10W	
R26	1-216-097-00	METAL CHIP 100K 5% 1/10W	
R27	1-216-029-00	METAL CHIP 150 5% 1/10W	
R28	1-216-057-00	METAL CHIP 2.2K 5% 1/10W	
R29	1-216-049-00	METAL CHIP 1K 5% 1/10W	
R30	1-216-049-00	METAL CHIP 1K 5% 1/10W	
R31	1-216-081-00	METAL CHIP 22K 5% 1/10W	
R32	1-216-052-00	METAL CHIP 1.3K 5% 1/10W	
R33	1-216-025-00	METAL CHIP 100 5% 1/10W	
R34	1-216-015-00	METAL CHIP 39 5% 1/10W	
R35	1-216-295-00	METAL CHIP 0 5% 1/10W	
R36	1-216-025-00	METAL CHIP 100 5% 1/10W	
R37	1-216-109-00	METAL CHIP 330K 5% 1/10W	
R38	1-216-105-00	METAL CHIP 220K 5% 1/10W	
R39	1-216-073-00	METAL CHIP 10K 5% 1/10W	
R40	1-216-089-00	METAL CHIP 47K 5% 1/10W	
R41	1-216-025-00	METAL CHIP 100 5% 1/10W	
R42	1-216-049-00	METAL CHIP 1K 5% 1/10W	
R43	1-216-113-00	METAL CHIP 470K 5% 1/10W	
R44	1-216-089-00	METAL CHIP 47K 5% 1/10W	
R45	1-216-109-00	METAL CHIP 330K 5% 1/10W	
R46	1-216-057-00	METAL CHIP 2.2K 5% 1/10W	
R47	1-216-069-00	METAL CHIP 6.8K 5% 1/10W	
R48	1-216-065-00	METAL CHIP 4.7K 5% 1/10W	
R49	1-216-049-00	METAL CHIP 1K 5% 1/10W	
R50	1-216-109-00	METAL CHIP 330K 5% 1/10W	
R51	1-216-109-00	METAL CHIP 330K 5% 1/10W	
R52	1-216-067-00	METAL CHIP 5.6K 5% 1/10W	
R67	1-216-295-00	METAL CHIP 0 5% 1/10W	
R68	1-216-097-00	METAL CHIP 100K 5% 1/10W	
R69	1-216-295-00	METAL CHIP 0 5% 1/10W	
R70	1-216-295-00	METAL CHIP 0 5% 1/10W	
R71	1-216-296-00	METAL CHIP 0 5% 1/8W	
R72	1-216-296-00	METAL CHIP 0 5% 1/8W	
R73	1-216-295-00	METAL CHIP 0 5% 1/10W	
R74	1-216-296-00	METAL CHIP 0 5% 1/8W	
R75	1-216-295-00	METAL CHIP 0 5% 1/10W	

Ref. No.	Part No.	Description			Remark
R76	1-296-296-00	METAL CHIP	0	5%	1/10W
R77	1-216-295-00	METAL CHIP	0	5%	1/10W
R78	1-216-296-00	METAL CHIP	0	5%	1/8W
R79	1-216-296-00	METAL CHIP	0	5%	1/8W
R80	1-216-295-00	METAL CHIP	0	5%	1/10W
R81	1-216-295-00	METAL CHIP	0	5%	1/10W
R82	1-216-025-00	METAL CHIP	100	5%	1/10W
R83	1-216-295-00	METAL CHIP	0	5%	1/10W
R84	1-216-296-00	METAL CHIP	0	5%	1/8W
R85	1-216-295-00	METAL CHIP	0	5%	1/10W
R86	1-216-295-00	METAL CHIP	0	5%	1/10W
R87	1-216-296-00	METAL CHIP	0	5%	1/8W
R88	1-216-296-00	METAL CHIP	0	5%	1/8W
R89	1-216-296-00	METAL CHIP	0	5%	1/8W
R90	1-216-295-00	METAL CHIP	0	5%	1/10W
R91	1-216-295-00	METAL CHIP	0	5%	1/10W
R92	1-216-295-00	METAL CHIP	0	5%	1/10W
R93	1-216-295-00	METAL CHIP	0	5%	1/10W
R94	1-216-296-00	METAL CHIP	0	5%	1/8W
R95	1-216-296-00	METAL CHIP	0	5%	1/8W
R96	1-216-295-00	METAL CHIP	0	5%	1/10W
R97	1-216-295-00	METAL CHIP	0	5%	1/10W
R98	1-216-296-00	METAL CHIP	0	5%	1/8W
R99	1-216-296-00	METAL CHIP	0	5%	1/8W
		< VARIABLE RESISTOR >			
RV2	1-238-650-11	RES, VAR, CARBON 10K			
		< TRANSFORMER >			
T1	1-404-789-11	TRANSFORMER, IF			
T2	1-404-674-11	TRANSFORMER, IF (FM MIX)			

****

MISCELLANEOUS
****

2	1-544-756-11	SPEAKER (7CM)
5	1-501-362-11	ANTENNA, TELESCOPIC

****

ACCESSORIES & PACKING MATERIALS
****

*	3-385-096-01	INDIVIDUAL CARTON
	3-385-979-01	LABEL (DIGITAL DEVICE), FCC
	3-704-365-01	BAG (STANDARD), PROTECTION
	3-755-441-21	MANUAL, INSTRUCTION

****

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93A0531-1
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Personal Telecommunications Group

Published by Audio Corporate Planning Group

ICF-M350V

SONY

US Model

SERVICE MANUAL

Ver 1.0 1999. 12

SUPPLEMENT-1

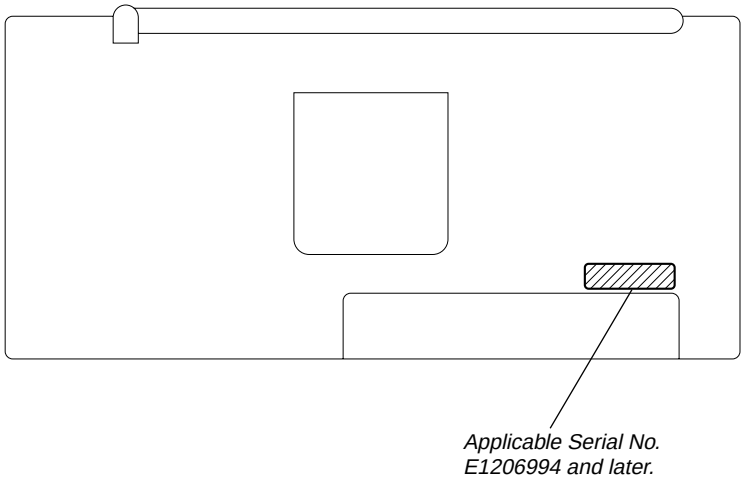
File this supplement with the service manual.

Subject: MAIN/KEY Board Modification

(ECN-TRB00055)

- **Discrimination**

– Cabinet (Rear) –



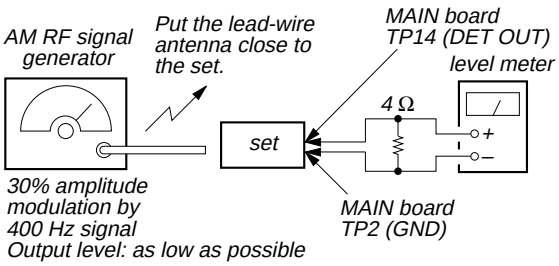
Applicable Serial No.
E1206994 and later.

1. ELECTRICAL ADJUSTMENTS

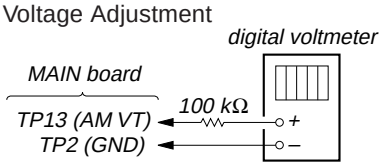
0 dB=1 µV

[AM]
Setting:
BAND: AM

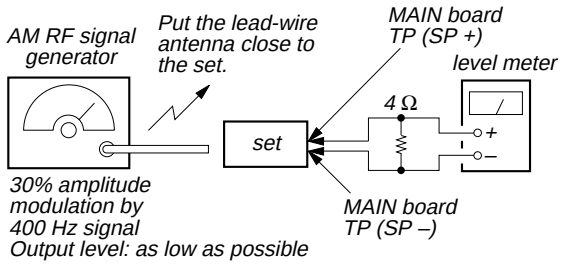
• AM IF Adjustment



• AM VT Voltage Adjustment

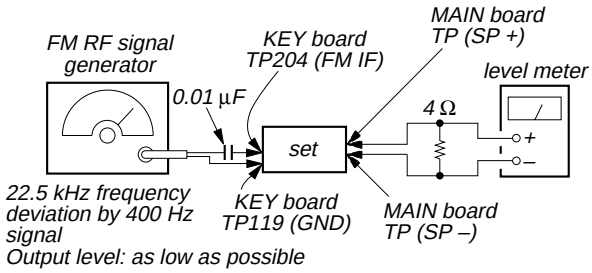


• AM Tracking Adjustment

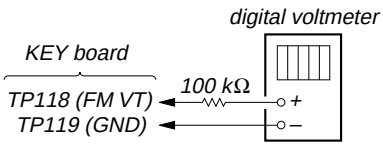


[FM/TV]
Setting:
BAND: FM, TV or Weather

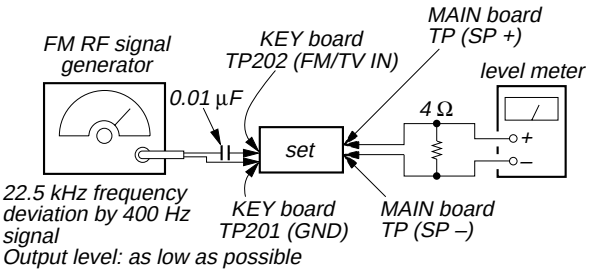
• FM IF Adjustment



• FM/TV VT Voltage Confirmation



• FM/TV Tracking Adjustment



• Repeat the procedures in each adjustment several times, and the tracking adjustments should be finally done by the trimmer capacitors.
• Remove FM antenna in FM adjustment.

AM IF ADJUSTMENT	
Adjust for a maximum reading on level meter	
T1	450 kHz

AM VT VOLTAGE ADJUSTMENT		
Adjustment Part	Frequency Display	Reading on Digital Voltmeter
L2	530 kHz	1.5 ± 0.1 V
Confirmation	1,710 kHz	7 to 9 V

AM TRACKING ADJUSTMENT	
Adjust for a maximum reading on level meter	
L1	590 kHz
CT1	1,490 kHz

FM IF ADJUSTMENT	
Adjust for a maximum reading on level meter	
T201	10.7 MHz

FM VT VOLTAGE CONFIRMATION		
	Frequency Display	Reading on Digital Voltmeter
Confirmation	TV 2CH	0.9 ± 0.2 V
Confirmation	108 MHz	9 to 11.5 V

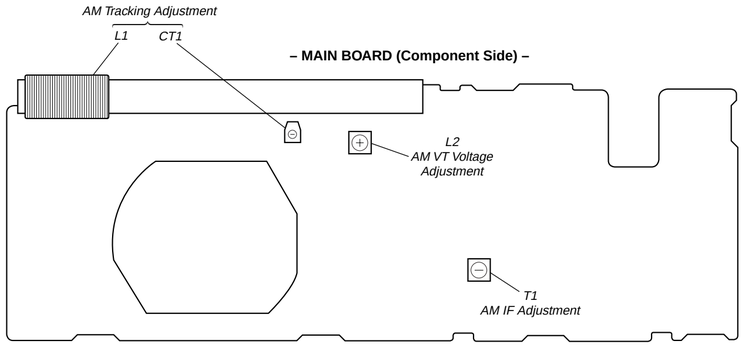
FM TRACKING ADJUSTMENT	
Adjust for a maximum reading on level meter	
L203	TV 2CH
CT202	108 MHz

TV VT VOLTAGE CONFIRMATION		
	Frequency Display	Reading on Digital Voltmeter
Confirmation	Weather 2CH	0.7 ± 0.2 V
Confirmation	TV 13CH	9.5 to 11.5 V

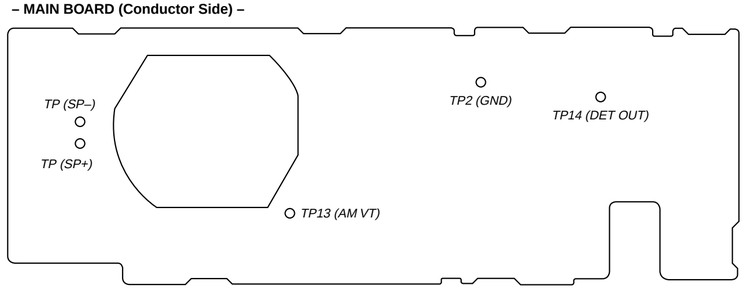
TV TRACKING ADJUSTMENT	
Adjust for a maximum reading on level meter	
L202	Weather 2CH
CT201	TV 13CH

Adjustment Location: MAIN and KEY board (See page 3)

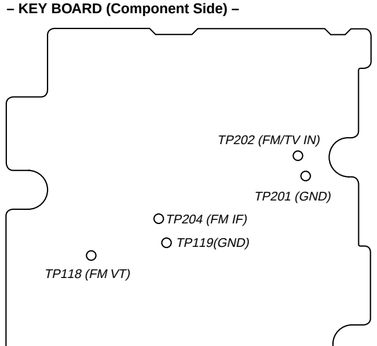
Adjustment Location:



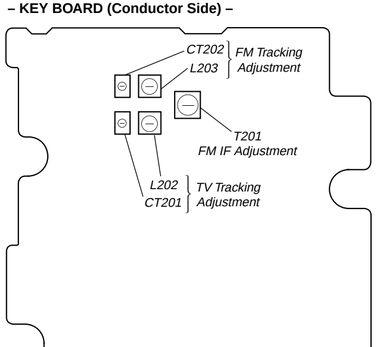
– MAIN BOARD (Conductor Side) –



– KEY BOARD (Component Side) –

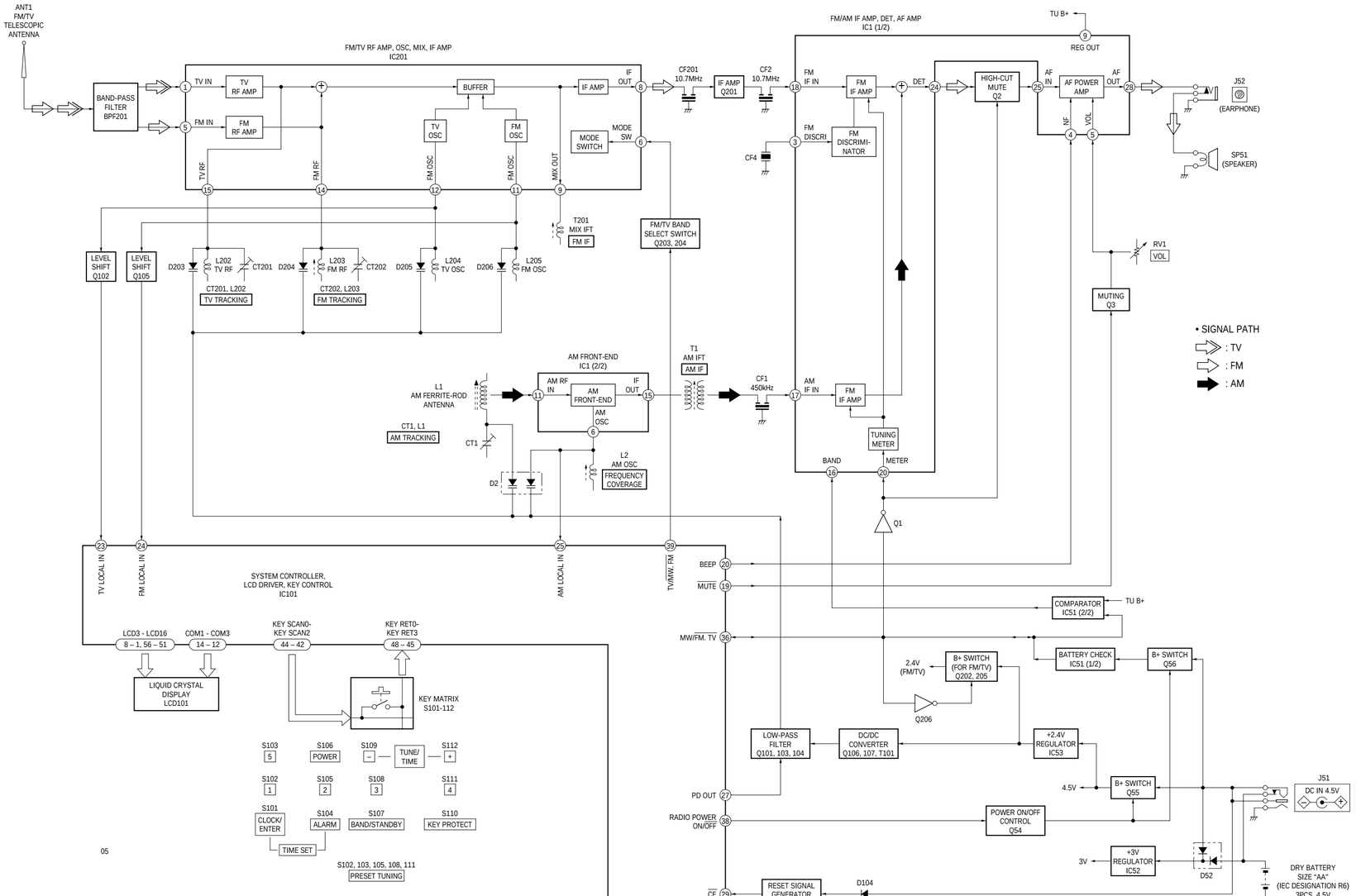


– KEY BOARD (Conductor Side) –

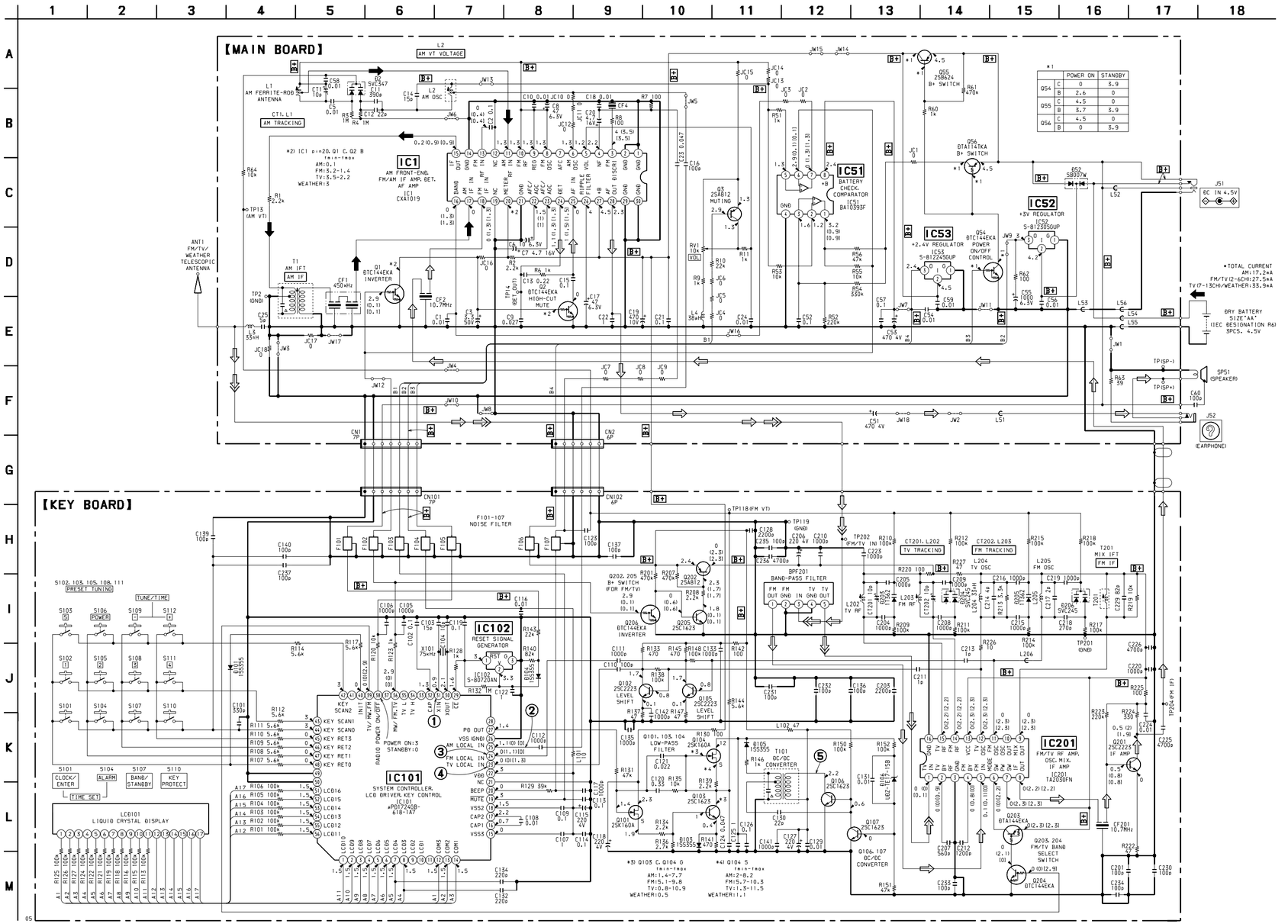


2. DIAGRAMS

2-1. BLOCK DIAGRAM



2-2. SCHEMATIC DIAGRAM • See page 11 for Waveforms. • See page 11 for IC Block Diagrams.



Note on Schematic Diagram:

- All capacitors are in µF unless otherwise noted. pF: µµF 50 WV or less are not indicated except for electrolytics and tantalums.
- All resistors are in Ω and 1/4 W or less unless otherwise specified.
- △ : internal component.
- ▭ : panel designation.
- B+ : B+ Line.
- ▬ : adjustment for repair.
- Power voltage is dc 4.5 V and fed with regulated dc power supply from battery terminal.
- Voltages and waveforms are dc with respect to ground under no-signal (detuned) conditions.
  no mark : AM
  ( ) :FM/TV (2 to 6CH)
  [ ] : TV (7 to 13CH)/weather
- Voltages are taken with a VOM (Input impedance 10 MΩ). Voltage variations may be noted due to normal production tolerances.
- Waveforms are taken with a oscilloscope. Voltage variations may be noted due to normal production tolerances.
- Circled numbers refer to waveforms.
- Signal path.
  ⇨ : TV
  ⇨ : FM
  ➡ : AM

Note on Printed Wiring Boards:

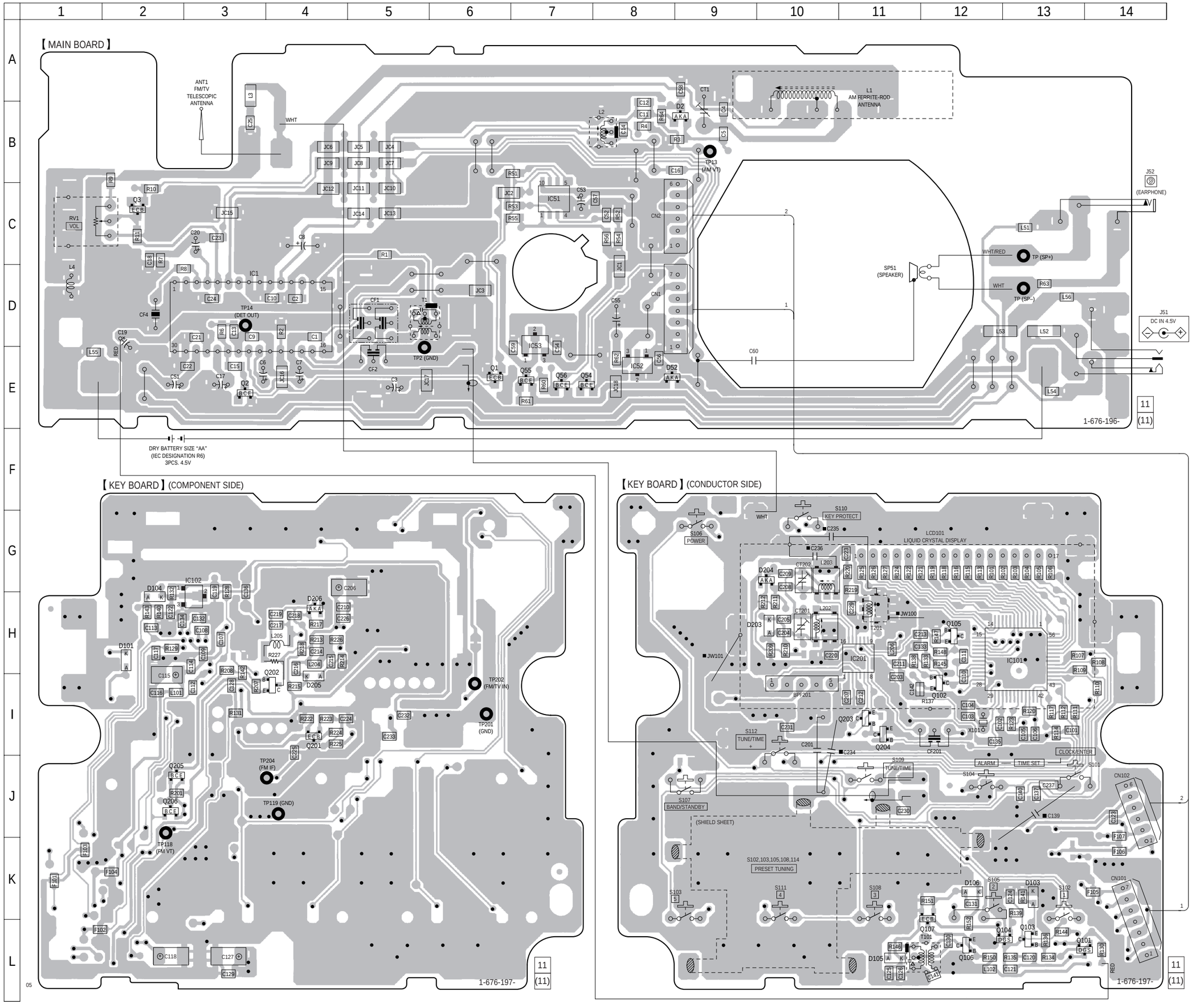
- ○——— : parts extracted from the component side.
- ——— : parts extracted from the conductor side.
- ■ : parts mounted on the conductor side.
- ⊡ : indicates side identified with part number.
- ● : Through hole.
- △ : internal component.
- ▨ : Pattern from the side which enables seeing.

(The other layers' patterns are not indicated.)

Caution:

Pattern face side: (Conductor Side)	Parts on the pattern face side seen from the pattern face are indicated.
Parts face side: (Component Side)	Parts on the parts face side seen from the parts face are indicated.

2-3. PRINTED WIRING BOARDS

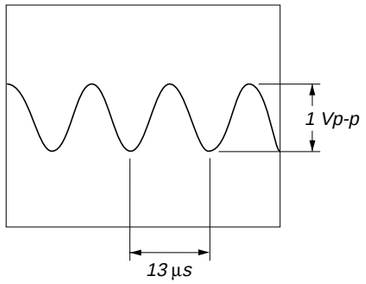


- **Semiconductor Location**

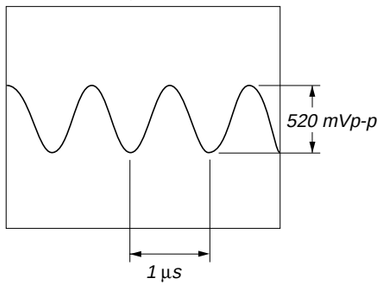
Ref. No.	Location
D2	B-9
D52	E-8
D101	H-2
D103	K-13
D104	H-2
D105	L-11
D106	K-12
D203	H-10
D204	G-10
D205	I-4
D206	H-4
IC1	D-3
IC51	C-7
IC52	E-8
IC53	D-7
IC101	H-13
IC102	H-3
IC201	H-11
Q1	E-6
Q2	E-3
Q3	C-2
Q54	E-7
Q55	E-7
Q56	E-7
Q101	L-13
Q102	I-12
Q103	L-13
Q104	L-13
Q105	H-12
Q106	L-12
Q107	L-12
Q201	I-4
Q202	I-4
Q203	I-11
Q204	I-11
Q205	J-2
Q206	J-2

• Waveforms

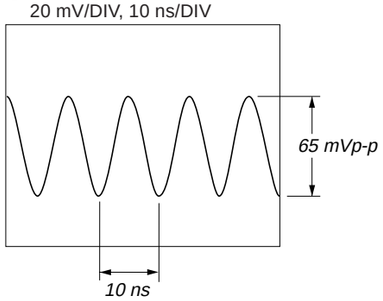
❶ IC101 ㉛ (XIN)
500 mV/DIV, 5 µs/DIV



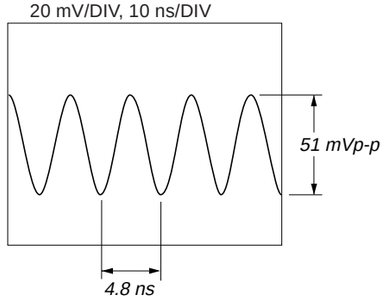
❷ IC101 ㉕ (AM LOCAL IN) (Band: AM)
200 mV/DIV, 500 ns/DIV



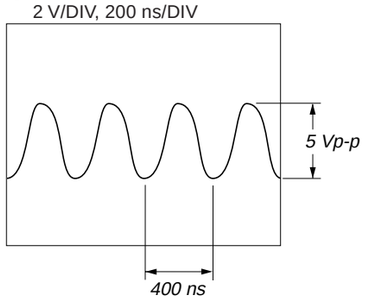
❸ IC101 ㉖ (FM LOCAL IN) (Band: FM)
20 mV/DIV, 10 ns/DIV



❹ IC101 ㉗ (TV LOCAL IN) (Band: TV H)
20 mV/DIV, 10 ns/DIV

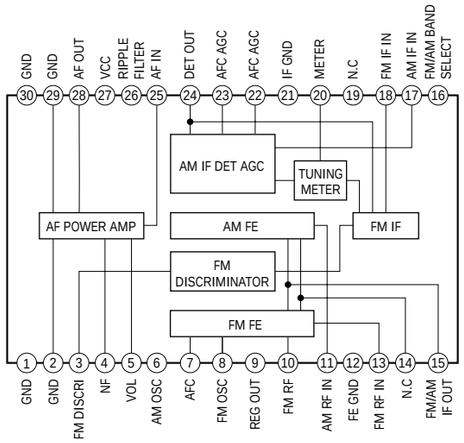


❺ Q106 collector
2 V/DIV, 200 ns/DIV

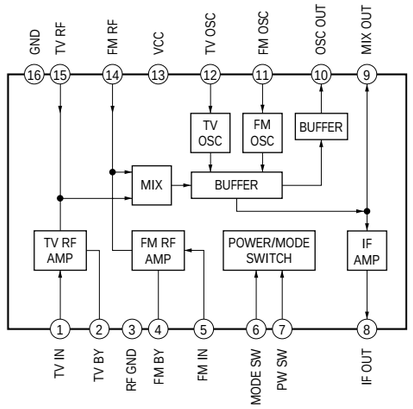


• IC Block Diagrams

IC1 CXA1019S



IC201 TA2030FN (EL)



2-4. IC PIN FUNCTION DESCRIPTION

• KEY BOARD IC101 µPD1724GB-618-1A7 (SYSTEM CONTROLLER, LCD DRIVER, KEY CONTROL)

Pin No.	Pin Name	I/O	Description
1 to 8	LCD10 to LCD3	O	Segment drive signal output to the liquid crystal display (LCD101)
9, 10	LCD2, LCD1	O	Segment drive signal output to the liquid crystal display Not used (open)
11	—	—	Not used (open)
12 to14	COM3 to COM1	O	Common drive signal output to the liquid crystal display (LCD101)
15	VSS3	—	Ground terminal
16, 17	CAP1, CAP2	—	Terminal for doubler circuit capacitor connection to develop liquid crystal display drive voltage
18	VSS2	—	Ground terminal
19	$\overline{\text{MUTE}}$	O	Muting on/off control signal output “L”: muting on
20	BEEP	O	Buzzer sound signal output terminal
21	NC	—	Not used (fixed at “L”)
22	VDD	—	Power supply terminal (+3V)
23	TV LOCAL IN	I	TV (7 to 13CH, weather) VCO input terminal
24	FM LOCAL IN	I	FM/TV (2 to 6CH) VCO input terminal
25	AM LOCAL IN	I	AM VCO input terminal
26	VSS (GND)	—	Ground terminal
27	PD OUT	O	PLL error output terminal
28	—	—	Not used (open)
29	$\overline{\text{CE}}$	I	System reset signal input from the reset signal generator (IC102) “L”: reset For several hundreds msec. after the power supply rises, “L” is input, then it changes to “H”
30	XOUT	O	System clock output terminal (75kHz)
31	XIN	I	System clock input terminal (75kHz)
32	CAP	—	Terminal for regulator circuit capacitor connection to attain stable drive voltage of the oscillator
33	—	—	Not used (open)
34	TV H	O	TV band select signal output terminal Not used (open)
35	TV L	O	TV band select signal output terminal Not used (open)
36	MW/$\overline{\text{FM. TV}}$	I/O	Battery check signal input from battery check (IC51) and AM or FM/TV band select signal output “L”: FM/TV, “H”: AM
37	—	—	Not used (open)
38	RADIO $\overline{\text{POWER}}$ ON/OFF	O	Power on/off control signal output terminal “L”: power off, “H”: power on
39	TV/$\overline{\text{MW. FM}}$	O	FM/TV (2 to 6CH) or TV (7 to 13CH, weather) band select signal output “L”: FM/TV (2 to 6CH), “H”: TV (7 to 13CH, weather)
40	INIT	O	Initialize signal output to KEY RET0 (pin ㊽)
41	—	—	Not used (open)
42 to 44	KEY SCAN2 to KEY SCAN0	O	Key scan signal output to the key matrix
45 to 48	KEY RET3 to KEY RET0	I	Key return signal input from the key matrix
49, 50	—	—	Not used (fixed at “L”)
51 to 56	LCD16 to LCD11	O	Segment drive signal output to the liquid crystal display (LCD101)

3. EXPLODED VIEWS

☛ : Indicates added portion.

<table>
<tr><th>Page</th><th>Before Change</th><th>After Change</th></tr>
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<tr><th>Ref. No.</th><th>Part No.</th><th>Description</th><th>Remark</th></tr>
<tr><td>5</td><td>1-501-362-11</td><td>ANTENNA, TELESCOPIC</td><td></td></tr>
<tr><td>9</td><td>4-860-518-00</td><td>CUSHION</td><td></td></tr>
<tr><td>12</td><td>3-370-475-01</td><td>SCREW (NYLOCK +B 3X6)</td><td></td></tr>
<tr><td>13</td><td>7-685-650-79</td><td>SCREW +P 3X16 TYPE2 NON-SLIT</td><td></td></tr>
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<tr><td>12</td><td>3-918-696-11</td><td>SCREW (M 3X6 LOCK ACE)</td><td></td></tr>
<tr><td>13</td><td>7-685-150-14</td><td>SCREW +P 3X16 TYPE2 NON-SLIT</td><td></td></tr>
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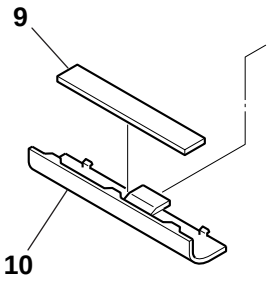
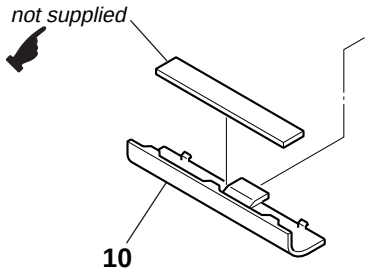
<tr><td> 
</td><td> 
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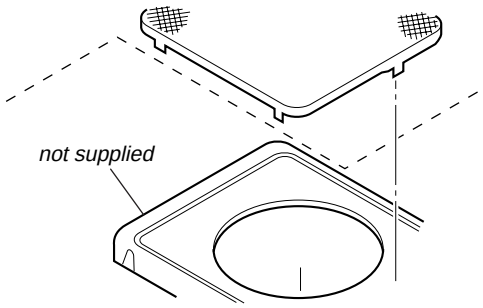
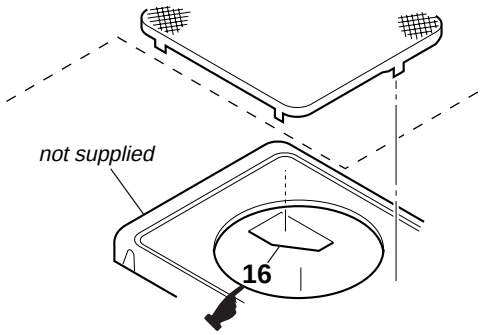
<tr><td> 
</td><td> 
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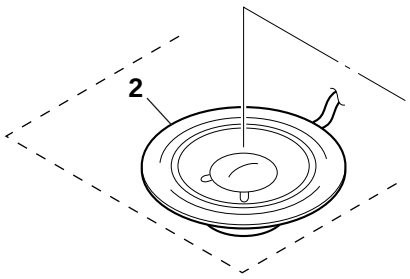
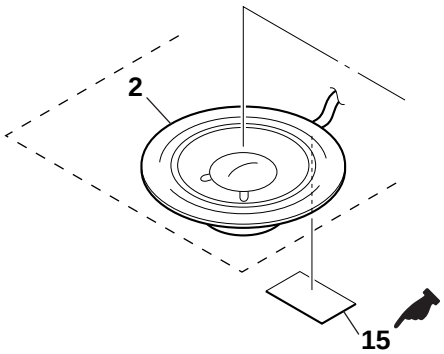
<tr><td> 
</td><td> 
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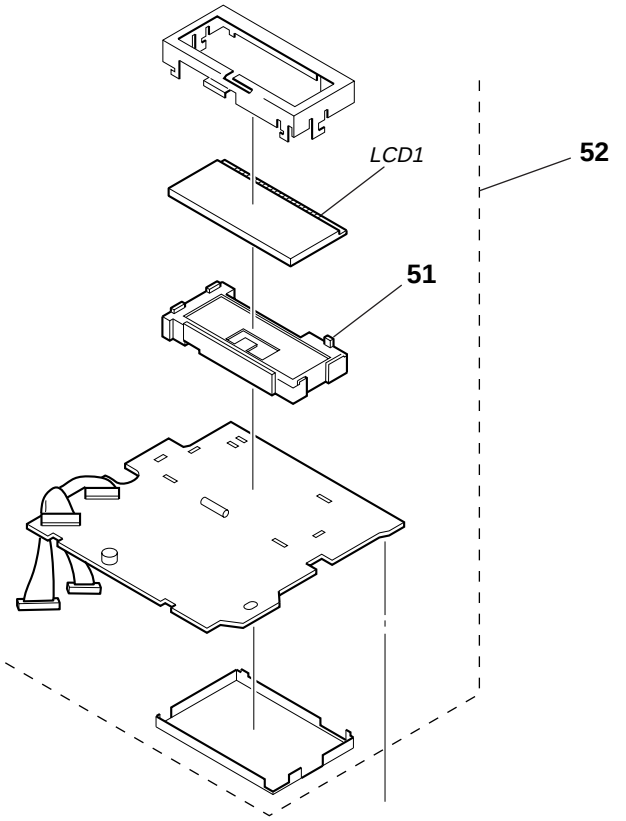
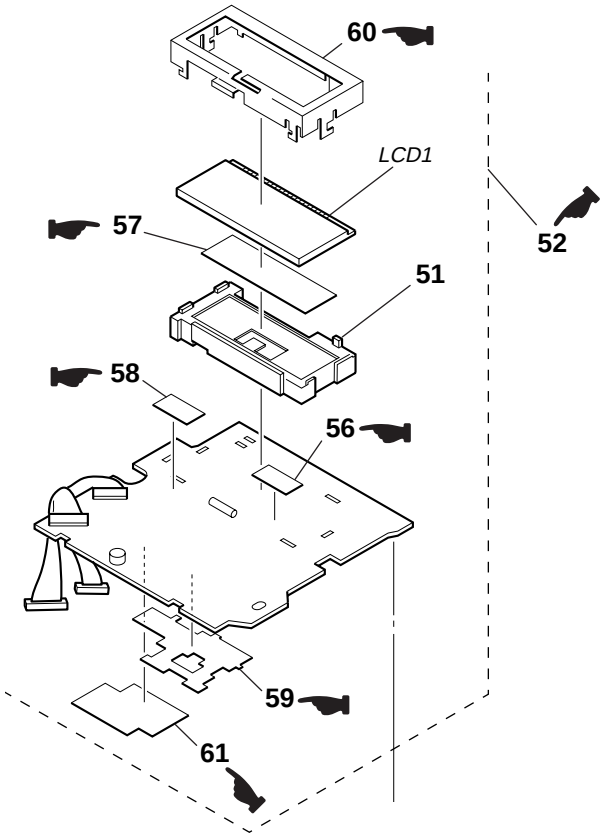
Page	Before Change				After Change			
	Ref. No.	Part No.	Description	Remark	Ref. No.	Part No.	Description	Remark
	* 51	3-380-336-01	HOLDER (LCD)		* 51	3-043-509-01	HOLDER (LCD)	
	* 52	A-3679-479-A	DISPLAY BOARD, COMPLETE		52	A-3663-452-A	KEY BOARD, COMPLETE	
	* 55	A-3679-478-A	MAIN BOARD, COMPLETE		55	A-3663-449-A	MAIN BOARD, COMPLETE	
					56	3-045-823-01	SPACER (BPF)	
					57	3-043-511-01	SHIELD (LCD), SHEET	
					58	3-043-510-01	INSULATING SHEET	
					59	3-043-512-01	SHIELD (KEY), SHEET	
					60	3-043-507-01	SHIELD (LCD)	
					61	3-046-614-01	SHIELD (DD), SHEET	
14								

• Items marked "*" are not stocked since they are seldom required for routine service.
Some delay should be anticipated when ordering these items.

4. ELECTRICAL PARTS LIST

NOTE:

- Due to standardization, replacements in the parts list may be different from the parts specified in the diagrams or the components used on the set.
- -XX and -X mean standardized parts, so they may have some difference from the original one.
- RESISTORS
  All resistors are in ohms.
  METAL: Metal-film resistor.
  METAL OXIDE: Metal oxide-film resistor.
  F: nonflammable
- Items marked "*" are not stocked since they are seldom required for routine service.
  Some delay should be anticipated when ordering these items.
- SEMICONDUCTORS
  In each case, u: μ, for example:
  uA. . : μA. . uPA. . : μPA. .
  uPB. . : μPB. . uPC. . : μPC. .
  uPD. . : μPD. .
- CAPACITORS
  uF: μF
- COILS
  uH: μH

Ref. No.	Part No.	Description			Remark
	A-3663-452-A	KEY BOARD, COMPLETE			
		**********			
	3-043-507-01	SHIELD (LCD)			
	3-043-509-01	HOLDER (LCD)			
	3-043-510-01	INSULATING SHEET			
	3-043-511-01	SHIELD (LCD), SHEET			
	3-043-512-01	SHIELD (KEY), SHEET			
	3-045-823-01	SPACER (BPF)			
	3-046-614-01	SHIELD (DD), SHEET			
		< BAND-PASS FILTER >			
BPF201	1-781-765-11	FILTER, BAND PASS			
		< CAPACITOR >			
C101	1-163-129-00	CERAMIC CHIP	330PF	5%	50V
C102	1-163-038-00	CERAMIC CHIP	0.1uF	0%	25V
C103	1-163-231-11	CERAMIC CHIP	15PF	5%	50V
C104	1-163-227-11	CERAMIC CHIP	10PF	0.5PF	50V
C105	1-163-009-11	CERAMIC CHIP	0.001uF	10%	50V
C106	1-163-009-11	CERAMIC CHIP	0.001uF	10%	50V
C107	1-164-346-11	CERAMIC CHIP	1uF	0%	16V
C108	1-163-021-11	CERAMIC CHIP	0.01uF	10%	50V
C109	1-163-038-00	CERAMIC CHIP	0.1uF	0%	25V
C110	1-163-251-11	CERAMIC CHIP	100PF	5%	50V
C111	1-163-009-11	CERAMIC CHIP	0.001uF	10%	50V
C112	1-163-009-11	CERAMIC CHIP	0.001uF	10%	50V
C113	1-163-038-00	CERAMIC CHIP	0.1uF	0%	25V
C114	1-164-004-11	CERAMIC CHIP	0.1uF	10%	25V
C115	1-125-899-11	TANTALUM CHIP	220uF	20%	4V
C116	1-163-021-11	CERAMIC CHIP	0.01uF	10%	50V
C117	1-163-009-11	CERAMIC CHIP	0.001uF	10%	50V
C118	1-125-899-11	TANTALUM CHIP	220uF	20%	4V
C119	1-163-038-00	CERAMIC CHIP	0.1uF	0%	25V
C120	1-110-501-11	CERAMIC CHIP	0.33uF	10%	16V
C121	1-163-037-11	CERAMIC CHIP	0.022uF	10%	25V
C122	1-164-346-11	CERAMIC CHIP	1uF	0%	16V
C123	1-163-251-11	CERAMIC CHIP	100PF	5%	50V
C124	1-163-809-11	CERAMIC CHIP	0.047uF	10%	25V
C125	1-164-346-11	CERAMIC CHIP	1uF	0%	16V
C126	1-164-004-11	CERAMIC CHIP	0.1uF	10%	25V
C127	1-125-899-11	TANTALUM CHIP	220uF	20%	4V

Ref. No.	Part No.	Description			Remark
C128	1-164-161-11	CERAMIC CHIP	0.0022uF	10%	100V
C129	1-163-021-11	CERAMIC CHIP	0.01uF	10%	50V
C130	1-163-235-11	CERAMIC CHIP	22PF	5%	50V
C131	1-163-021-11	CERAMIC CHIP	0.01uF	10%	50V
C132	1-163-125-00	CERAMIC CHIP	220PF	5%	50V
C133	1-163-009-11	CERAMIC CHIP	0.001uF	10%	50V
C134	1-163-125-00	CERAMIC CHIP	220PF	5%	50V
C135	1-163-141-00	CERAMIC CHIP	0.001uF	5%	50V
C136	1-163-117-00	CERAMIC CHIP	100PF	5%	50V
C137	1-163-117-00	CERAMIC CHIP	100PF	5%	50V
C138	1-163-117-00	CERAMIC CHIP	100PF	5%	50V
C139	1-128-809-11	CERAMIC	100PF	5%	50V
C140	1-163-117-00	CERAMIC CHIP	100PF	5%	50V
C141	1-163-009-11	CERAMIC CHIP	0.001uF	10%	50V
C142	1-163-009-11	CERAMIC CHIP	0.001uF	10%	50V
C201	1-128-809-11	CERAMIC	100PF	5%	50V
C202	1-163-009-11	CERAMIC CHIP	0.001uF	10%	50V
C203	1-164-161-11	CERAMIC CHIP	0.0022uF	10%	100V
C204	1-163-009-11	CERAMIC CHIP	0.001uF	10%	50V
C205	1-163-009-11	CERAMIC CHIP	0.001uF	10%	50V
C206	1-125-899-11	TANTALUM CHIP	220uF	20%	4V
C207	1-163-135-00	CERAMIC CHIP	560PF	5%	50V
C208	1-163-009-11	CERAMIC CHIP	0.001uF	10%	50V
C209	1-163-009-11	CERAMIC CHIP	0.001uF	10%	50V
C210	1-163-009-11	CERAMIC CHIP	0.001uF	10%	50V
C211	1-163-217-11	CERAMIC CHIP	1PF	0.25PF	50V
C212	1-163-010-11	CERAMIC CHIP	0.0012uF	10%	50V
C213	1-163-217-11	CERAMIC CHIP	1PF	0.25PF	50V
C214	1-163-087-00	CERAMIC CHIP	4PF		50V
C215	1-163-009-11	CERAMIC CHIP	0.001uF	10%	50V
C216	1-163-141-00	CERAMIC CHIP	0.001uF	5%	50V
C217	1-163-085-00	CERAMIC CHIP	2PF		50V
C218	1-163-127-00	CERAMIC CHIP	270PF	5%	50V
C219	1-163-141-00	CERAMIC CHIP	0.001uF	5%	50V
C220	1-163-009-11	CERAMIC CHIP	0.001uF	10%	50V
C223	1-163-009-11	CERAMIC CHIP	0.001uF	10%	50V
C224	1-163-021-11	CERAMIC CHIP	0.01uF	10%	50V
C225	1-163-017-00	CERAMIC CHIP	0.0047uF	5%	50V
C226	1-163-017-00	CERAMIC CHIP	0.0047uF	5%	50V
C227	1-164-161-11	CERAMIC CHIP	0.0022uF	10%	100V
C229	1-163-249-11	CERAMIC CHIP	82PF	5%	50V
C230	1-163-117-00	CERAMIC CHIP	100PF	5%	50V

KEY

Ref. No.	Part No.	Description			Remark
C231	1-163-117-00	CERAMIC CHIP	100PF	5%	50V
C232	1-163-117-00	CERAMIC CHIP	100PF	5%	50V
C233	1-163-117-00	CERAMIC CHIP	100PF	5%	50V
C234	1-128-809-11	CERAMIC	100PF	5%	50V
C235	1-128-809-11	CERAMIC	100PF	5%	50V
C236	1-162-600-11	CERAMIC	4700P	20%	16V
C237	1-163-117-00	CERAMIC CHIP	100PF	5%	50V
		< CERAMIC FILTER >			
CF201	1-579-265-81	FILTER, CERAMIC			
		< CONNECTOR >			
CN101	1-792-229-11	WIRE, LEAD (7 CORE)			
CN102	1-792-228-11	WIRE, LEAD (6 CORE)			
		< TRIMMER >			
CT201	1-141-482-21	CAP, ADJ 10PF			
CT202	1-141-482-21	CAP, ADJ 10PF			
		< DIODE >			
D101	8-719-988-61	DIODE 1SS355TE-17			
D103	8-719-988-61	DIODE 1SS355TE-17			
D104	8-719-988-61	DIODE 1SS355TE-17			
D105	8-719-988-61	DIODE 1SS355TE-17			
D106	8-719-978-65	DIODE UDZ-TE-17-15B			
D203	8-713-100-11	DIODE 1T362			
D204	8-719-078-37	DIODE SVC245-TB			
D205	8-713-100-11	DIODE 1T362			
D206	8-719-078-37	DIODE SVC245-TB			
		< FILTER >			
F101	1-781-766-21	FILTER, 3 TERMINAL NOISE			
F102	1-781-766-21	FILTER, 3 TERMINAL NOISE			
F103	1-781-766-21	FILTER, 3 TERMINAL NOISE			
F104	1-781-766-21	FILTER, 3 TERMINAL NOISE			
F105	1-781-766-21	FILTER, 3 TERMINAL NOISE			
F106	1-781-766-21	FILTER, 3 TERMINAL NOISE			
F107	1-781-766-21	FILTER, 3 TERMINAL NOISE			
		< IC >			
IC101	8-759-166-45	IC uPD1724GB-618-1A7			
IC102	8-759-070-05	IC S-50720AN-DH-S			
IC201	8-759-658-32	IC TA2030FN (EL)			
		< COIL/RESISTOR >			
L101	1-216-001-00	METAL CHIP	10	5%	1/10W
L102	1-216-017-00	RES-CHIP	47	5%	1/10W
L202	1-419-515-11	COIL, RF			
L203	1-419-516-11	COIL, RF			
L204	1-412-921-61	INDUCTOR (CHIP)		33nH	
L205	1-419-556-11	COIL, AIR-CORE			
L206	1-469-650-22	FERRITE			
		< LIQUID CRYSTAL DISPLAY >			
LCD101	1-810-011-11	DISPLAY PANEL, LIQUID CRYSTAL			

Ref. No.	Part No.	Description			Remark
		< TRANSISTOR >			
Q101	8-729-117-83	FET	2SK160A-K25		
Q102	8-729-102-07	TRANSISTOR	2SC2223-F13		
Q103	8-729-120-28	TRANSISTOR	2SC1623-L5L6		
Q104	8-729-117-83	FET	2SK160A-K25		
Q105	8-729-102-07	TRANSISTOR	2SC2223-F13		
Q106	8-729-120-28	TRANSISTOR	2SC1623-L5L6		
Q107	8-729-120-28	TRANSISTOR	2SC1623-L5L6		
Q201	8-729-102-07	TRANSISTOR	2SC2223-F13		
Q202	8-729-216-22	TRANSISTOR	2SA1162-G		
Q203	8-729-027-38	TRANSISTOR	DTA144EKA-T146		
Q204	1-801-806-11	TRANSISTOR	DTC144EKA-T146		
Q205	8-729-120-28	TRANSISTOR	2SC1623-L5L6		
Q206	1-801-806-11	TRANSISTOR	DTC144EKA-T146		
		< RESISTOR >			
R101	1-216-097-00	RES-CHIP	100K	5%	1/10W
R102	1-216-097-00	RES-CHIP	100K	5%	1/10W
R103	1-216-097-00	RES-CHIP	100K	5%	1/10W
R104	1-216-097-00	RES-CHIP	100K	5%	1/10W
R105	1-216-097-00	RES-CHIP	100K	5%	1/10W
R106	1-216-097-00	RES-CHIP	100K	5%	1/10W
R107	1-216-067-00	METAL CHIP	5.6K	5%	1/10W
R108	1-216-067-00	METAL CHIP	5.6K	5%	1/10W
R109	1-216-067-00	METAL CHIP	5.6K	5%	1/10W
R110	1-216-067-00	METAL CHIP	5.6K	5%	1/10W
R111	1-216-067-00	METAL CHIP	5.6K	5%	1/10W
R112	1-216-067-00	METAL CHIP	5.6K	5%	1/10W
R113	1-216-097-00	RES-CHIP	100K	5%	1/10W
R114	1-216-067-00	METAL CHIP	5.6K	5%	1/10W
R115	1-216-097-00	RES-CHIP	100K	5%	1/10W
R116	1-216-097-00	RES-CHIP	100K	5%	1/10W
R117	1-216-067-00	METAL CHIP	5.6K	5%	1/10W
R118	1-216-097-00	RES-CHIP	100K	5%	1/10W
R119	1-216-097-00	RES-CHIP	100K	5%	1/10W
R120	1-216-073-00	METAL CHIP	10K	5%	1/10W
R121	1-216-097-00	RES-CHIP	100K	5%	1/10W
R122	1-216-097-00	RES-CHIP	100K	5%	1/10W
R123	1-216-049-11	RES-CHIP	1K	5%	1/10W
R124	1-216-097-00	RES-CHIP	100K	5%	1/10W
R125	1-216-097-00	RES-CHIP	100K	5%	1/10W
R126	1-216-097-00	RES-CHIP	100K	5%	1/10W
R127	1-216-097-00	RES-CHIP	100K	5%	1/10W
R128	1-216-049-11	RES-CHIP	1K	5%	1/10W
R129	1-216-689-11	METAL CHIP	39K	0.5%	1/10W
R130	1-216-025-00	RES-CHIP	100	5%	1/10W
R131	1-216-089-00	RES-CHIP	47K	5%	1/10W
R132	1-216-121-00	RES-CHIP	1M	5%	1/10W
R133	1-216-041-00	METAL CHIP	470	5%	1/10W
R134	1-216-057-00	METAL CHIP	2.2K	5%	1/10W
R135	1-216-073-00	METAL CHIP	10K	5%	1/10W
R136	1-216-059-00	METAL CHIP	2.7K	5%	1/10W
R137	1-216-017-00	RES-CHIP	47	5%	1/10W
R138	1-216-097-00	RES-CHIP	100K	5%	1/10W
R139	1-216-057-00	METAL CHIP	2.2K	5%	1/10W
R140	1-216-095-00	METAL CHIP	82K	5%	1/10W
R141	1-216-057-00	METAL CHIP	2.2K	5%	1/10W

Ref. No.	Part No.	Description			Remark
R142	1-216-025-00	RES-CHIP	100	5%	1/10W
R143	1-216-081-00	METAL CHIP	22K	5%	1/10W
R144	1-216-067-00	METAL CHIP	5.6K	5%	1/10W
R145	1-216-041-00	METAL CHIP	470	5%	1/10W
R146	1-216-049-11	RES-CHIP	1K	5%	1/10W
R147	1-216-017-00	RES-CHIP	47	5%	1/10W
R148	1-216-097-00	RES-CHIP	100K	5%	1/10W
R150	1-216-097-00	RES-CHIP	100K	5%	1/10W
R151	1-216-089-00	RES-CHIP	47K	5%	1/10W
R152	1-216-097-00	RES-CHIP	100K	5%	1/10W
R201	1-216-113-00	METAL CHIP	470K	5%	1/10W
R207	1-216-113-00	METAL CHIP	470K	5%	1/10W
R208	1-216-057-00	METAL CHIP	2.2K	5%	1/10W
R209	1-216-097-00	RES-CHIP	100K	5%	1/10W
R210	1-216-097-00	RES-CHIP	100K	5%	1/10W
R211	1-216-097-00	RES-CHIP	100K	5%	1/10W
R212	1-216-097-00	RES-CHIP	100K	5%	1/10W
R213	1-216-061-00	METAL CHIP	3.3K	5%	1/10W
R214	1-216-097-00	RES-CHIP	100K	5%	1/10W
R215	1-216-097-00	RES-CHIP	100K	5%	1/10W
R217	1-216-097-00	RES-CHIP	100K	5%	1/10W
R218	1-216-097-00	RES-CHIP	100K	5%	1/10W
R219	1-216-073-00	METAL CHIP	10K	5%	1/10W
R220	1-216-025-00	RES-CHIP	100	5%	1/10W
R222	1-216-017-00	RES-CHIP	47	5%	1/10W
R223	1-216-105-00	RES-CHIP	220K	5%	1/10W
R224	1-216-037-00	METAL CHIP	330	5%	1/10W
R225	1-216-025-00	RES-CHIP	100	5%	1/10W
R226	1-216-001-00	METAL CHIP	10	5%	1/10W
R227	1-249-401-11	CARBON	47	5%	1/4W
		< SWITCH >			
S101	1-571-760-11	SWITCH, KEY BOARD (TIME SET, CLOCK/ENTER)			
S102	1-571-760-11	SWITCH, KEY BOARD (PRESET TUNING 1)			
S103	1-571-760-11	SWITCH, KEY BOARD (PRESET TUNING 5)			
S104	1-571-760-11	SWITCH, KEY BOARD (TIME SET, ALARM)			
S105	1-571-760-11	SWITCH, KEY BOARD (PRESET TUNING 2)			
S106	1-571-760-11	SWITCH, KEY BOARD (POWER)			
S107	1-571-760-11	SWITCH, KEY BOARD (BAND/STANDBY)			
S108	1-571-760-11	SWITCH, KEY BOARD (PRESET TUNING 3)			
S109	1-571-760-11	SWITCH, KEY BOARD (TUNE/TIME –)			
S110	1-572-596-21	SWITCH, KEY BOARD (KEY PROTECT)			
S111	1-571-760-11	SWITCH, KEY BOARD (PRESET TUNING 4)			
S112	1-571-760-11	SWITCH, KEY BOARD (TUNE/TIME +)			
		< TRANSFORMER >			
T101	1-449-138-61	TRANSFORMER, DC-DC CONVERTER			
T201	1-435-354-11	TRANSFORMER, IF			
		< VIBRATOR >			
X101	1-567-769-11	VIBRATOR, CRYSTAL (75kHz)			

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Ref. No.	Part No.	Description			Remark
	A-3663-449-A	MAIN BOARD, COMPLETE			
		**********			
		< CAPACITOR >			
C1	1-163-021-11	CERAMIC CHIP	0.01uF	10%	50V
C2	1-164-004-11	CERAMIC CHIP	0.1uF	10%	25V
C3	1-126-162-11	ELECT	3.3uF	20%	50V
C5	1-163-021-11	CERAMIC CHIP	0.01uF	10%	50V
C6	1-126-157-11	ELECT	10uF	20%	16V
C7	1-124-259-11	ELECT	4.7uF	20%	16V
C8	1-124-589-11	ELECT	47uF	20%	16V
C9	1-163-986-00	CERAMIC CHIP	0.027uF	10%	25V
C10	1-163-021-11	CERAMIC CHIP	0.01uF	10%	50V
C11	1-163-131-00	CERAMIC CHIP	390PF	5%	50V
C12	1-163-235-11	CERAMIC CHIP	22PF	5%	50V
C13	1-164-489-11	CERAMIC CHIP	0.22uF	10%	16V
C14	1-163-097-00	CERAMIC CHIP	15PF	5%	50V
C15	1-164-004-11	CERAMIC CHIP	0.1uF	10%	25V
C16	1-163-251-11	CERAMIC CHIP	100PF	5%	50V
C17	1-124-589-11	ELECT	47uF	20%	16V
C18	1-163-021-11	CERAMIC CHIP	0.01uF	10%	50V
C19	1-126-925-11	ELECT	470uF	20%	10V
C20	1-124-259-11	ELECT	4.7uF	20%	16V
C21	1-164-004-11	CERAMIC CHIP	0.1uF	10%	25V
C22	1-164-346-11	CERAMIC CHIP	1uF	0%	16V
C23	1-163-809-11	CERAMIC CHIP	0.047uF	10%	25V
C24	1-163-021-11	CERAMIC CHIP	0.01uF	10%	50V
C25	1-163-222-11	CERAMIC CHIP	5PF	0.25PF	50V
C51	1-126-518-11	ELECT	470uF	20%	4V
C52	1-164-004-11	CERAMIC CHIP	0.1uF	10%	25V
C53	1-126-518-11	ELECT	470uF	20%	4V
C54	1-163-021-11	CERAMIC CHIP	0.01uF	10%	50V
C55	1-126-916-11	ELECT	1000uF	20%	6.3V
C56	1-163-021-11	CERAMIC CHIP	0.01uF	10%	50V
C57	1-164-004-11	CERAMIC CHIP	0.1uF	10%	25V
C58	1-163-021-11	CERAMIC CHIP	0.01uF	10%	50V
C59	1-163-021-11	CERAMIC CHIP	0.01uF	10%	50V
C60	1-128-809-11	CERAMIC	100PF	5%	50V
		< FILTER >			
CF1	1-567-777-11	FILTER, CERAMIC			
CF2	1-579-265-81	FILTER, CERAMIC			
CF4	1-579-265-81	FILTER, CERAMIC			
		< CONNECTOR >			
* CN1	1-506-989-11	PIN, CONNECTOR (PC BOARD) 7P			
* CN2	1-506-988-11	PIN, CONNECTOR (PC BOARD) 6P			
		< TRIMMER >			
CT1	1-141-601-21	CAP, ADJ			
		< DIODE >			
D2	8-719-072-59	DIODE SVC347S-TL			
D52	8-719-986-76	DIODE SB007W03C			
		< IC >			
IC1	8-752-037-02	IC CXA1019S			

MAIN

Ref. No.	Part No.	Description			Remark
IC51	8-759-510-73	IC BA10393F-E2			
IC52	8-759-431-95	IC S-81230SGUP-DQB-T1			
IC53	8-759-662-22	IC S-81224SGUP-DQX-T1			
		< JACK >			
J51	1-695-153-11	JACK, DC (DC IN 4.5V)			
J52	1-563-836-21	JACK (②)			
		< SHORT >			
JC1	1-216-296-00	SHORT	0		
JC2	1-216-296-00	SHORT	0		
JC3	1-216-296-00	SHORT	0		
JC4	1-216-296-00	SHORT	0		
JC5	1-216-296-00	SHORT	0		
JC6	1-216-296-00	SHORT	0		
JC7	1-216-296-00	SHORT	0		
JC8	1-216-296-00	SHORT	0		
JC9	1-216-296-00	SHORT	0		
JC10	1-216-296-00	SHORT	0		
JC11	1-216-296-00	SHORT	0		
JC12	1-216-296-00	SHORT	0		
JC13	1-216-296-00	SHORT	0		
JC14	1-216-296-00	SHORT	0		
JC15	1-216-296-00	SHORT	0		
JC16	1-216-296-00	SHORT	0		
JC17	1-216-296-00	SHORT	0		
JC18	1-216-296-00	SHORT	0		
		< COIL >			
L1	1-501-583-11	ANTENNA, FERRITE-ROD (MW)			
L2	1-406-489-11	COIL (OSC)			
L3	1-412-921-61	INDUCTOR	33nH		
L4	1-410-294-11	INDUCTOR, MICRO	38uH		
L51	1-414-230-22	FERRITE			
L52	1-469-568-21	FERRITE			
L53	1-469-568-21	FERRITE			
L54	1-469-350-21	FERRITE			
L55	1-469-350-21	FERRITE			
L56	1-414-235-22	FERRITE			
		< TRANSISTOR >			
Q1	1-801-806-11	TRANSISTOR	DTC144EKA-T146		
Q2	1-801-806-11	TRANSISTOR	DTC144EKA-T146		
Q3	8-729-216-22	TRANSISTOR	2SA1162-G		
Q54	1-801-806-11	TRANSISTOR	DTC144EKA-T146		
Q55	8-729-141-48	TRANSISTOR	2SB624-BV345		
Q56	8-729-027-24	TRANSISTOR	DTA114TKA-T146		
		< RESISTOR >			
R1	1-216-057-00	METAL CHIP	2.2K	5%	1/10W
R2	1-216-057-00	METAL CHIP	2.2K	5%	1/10W
R3	1-216-121-00	RES-CHIP	1M	5%	1/10W
R4	1-216-121-00	RES-CHIP	1M	5%	1/10W
R6	1-216-049-11	RES-CHIP	1K	5%	1/10W
R7	1-216-025-00	RES-CHIP	100	5%	1/10W
R8	1-216-025-00	RES-CHIP	100	5%	1/10W
R9	1-216-049-11	RES-CHIP	1K	5%	1/10W
R10	1-216-081-00	METAL CHIP	22K	5%	1/10W

Ref. No.	Part No.	Description			Remark
R11	1-216-049-11	RES-CHIP	1K	5%	1/10W
R12	1-216-049-11	RES-CHIP	1K	5%	1/10W
R51	1-216-049-11	RES-CHIP	1K	5%	1/10W
R52	1-216-105-00	RES-CHIP	220K	5%	1/10W
R53	1-216-073-00	METAL CHIP	10K	5%	1/10W
R54	1-216-109-00	METAL CHIP	330K	5%	1/10W
R55	1-216-073-00	METAL CHIP	10K	5%	1/10W
R56	1-216-089-00	RES-CHIP	47K	5%	1/10W
R60	1-216-049-11	RES-CHIP	1K	5%	1/10W
R61	1-216-113-00	METAL CHIP	470K	5%	1/10W
R62	1-216-025-00	RES-CHIP	100	5%	1/10W
R63	1-216-015-00	METAL CHIP	39	5%	1/10W
R64	1-216-073-00	METAL CHIP	10K	5%	1/10W
		< VARIABLE RESISTOR >			
RV1	1-238-650-11	RES, VAR, CARBON 10K (VOL)			
		< TRANSFORMER >			
T1	1-404-789-11	TRANSFORMER, IF			

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Page	Before Change				After Change			
	Ref. No.	Part No.	Description	Remark	Ref. No.	Part No.	Description	Remark
			MISCELLANEOUS **********				MISCELLANEOUS **********	
	5	1-501-362-11	ANTENNA, TELESCOPIC		5	1-501-222-31	ANTENNA, TELESCOPIC	
19			ACCESSORIES & PACKING MATERIALS **********				ACCESSORIES & PACKING MATERIALS **********	
	*	3-385-096-01	INDIVIDUAL CARTON					
		3-385-979-01	LABEL (DIGITAL DEVICE), FCC					
		3-704-365-01	BAG (STANDARD), PROTECTION					
		3-755-441-21	MANUAL, INSTRUCTION			3-757-121-23	MANUAL, INSTRUCTION (ENGLISH)	

• Items marked "*" are not stocked since they are seldom required for routine service.
Some delay should be anticipated when ordering these items.

Sony Corporation
Personal Audio Division Company

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